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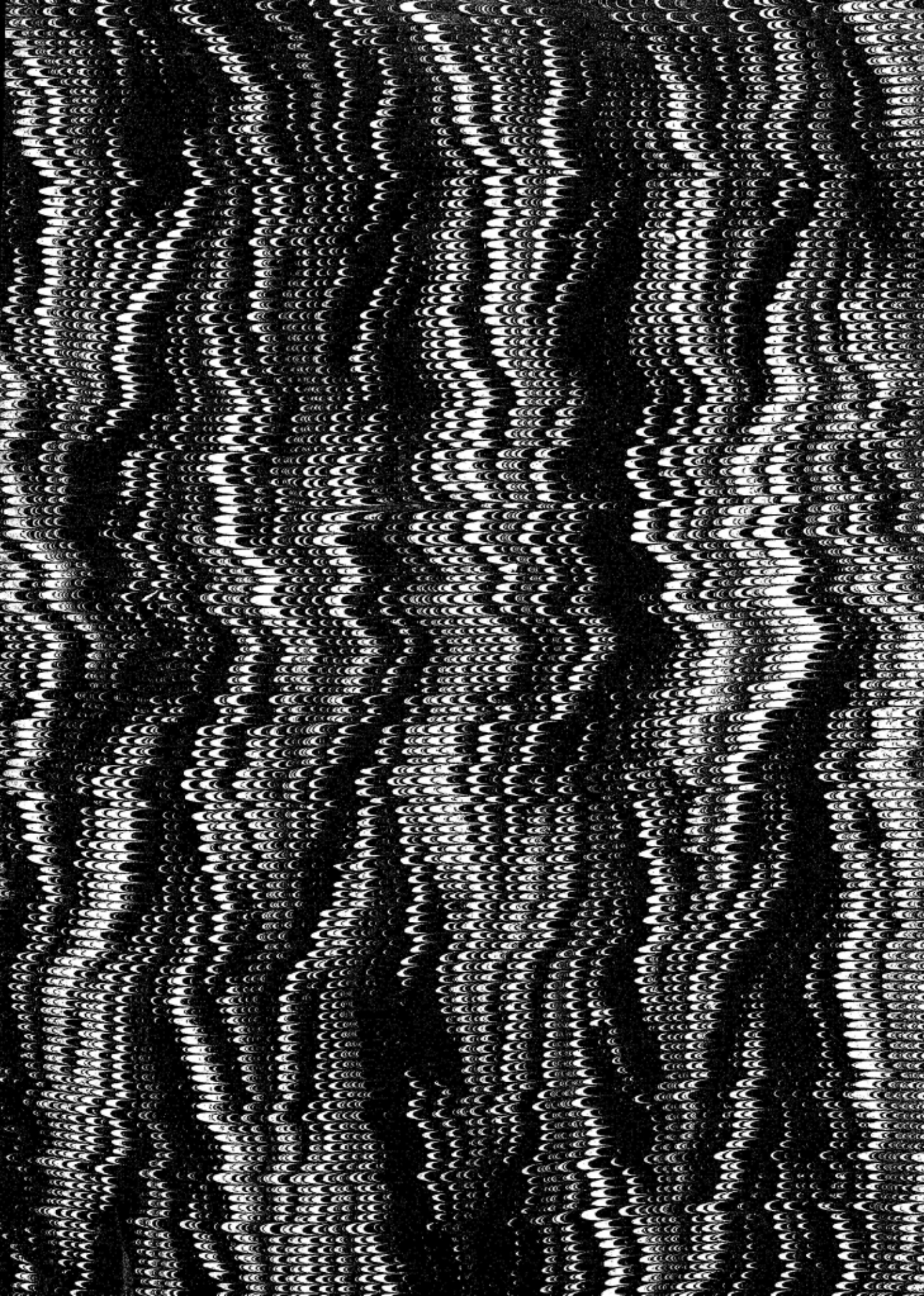
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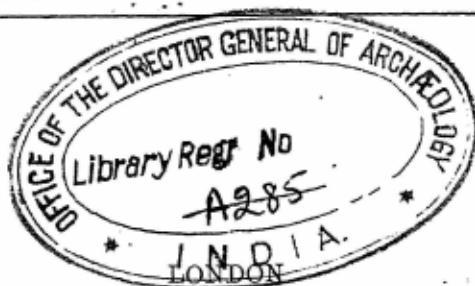
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## DRAWINGS PRESENTED.

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- Elevational and sectional details, drawn to  $\frac{1}{2}$  in. scale. 11 sheets. D. —
- Rugby parish church (rebuilding); plan, elevations, and sections, drawn to  $\frac{1}{4}$ th in. scale. 8 sheets. D. —
- The Priory, Ascot; proposed chapel; ground plan, elevations and sections, drawn to  $\frac{1}{4}$ th in. scale. 9 sheets. D. —

TOTAL :—DRAWINGS : 42 SHEETS.

# JOURNAL

OF

## THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

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Eighty-fifth Session—1918-19.

ADDRESS BY THE PRESIDENT, MR. HENRY T. HARE,  
at the Opening General Meeting, Monday, 4th November, 1918.

LADIES AND GENTLEMEN,—When we look back upon the years which have passed since the great catastrophe overtook us, and compare our outlook at each of our annual opening meetings with that which lies before us to-day, there is substantial reason for congratulation. We have always been able to contemplate the future with confidence, and each of the annual addresses has concluded with the hope and expectation of peace being once more with us during the succeeding twelve months. Looking back over that dreary period of hope deferred, we are now able to see events in something approaching a true perspective and to realize that those years have been occupied in organization and preparation for the wonderful events which we are witnessing day by day. We meet under the happiest auspices, seeing before us a definite prospect of an early conclusion of the sacrifices and horrors from which we have been suffering, and we are able to look forward to the restoration of peace within a measurable time: a peace which we all hope and trust will be lasting and permanent, "broad based upon the people's will," and so inspired and regulated as to lead to the happiness and prosperity of the whole world, whose ideals have been uplifted and purified by this long period of suffering and trial.

We stand to-day at the threshold of a new era. Our whole system and scheme of life have been dislocated and virtually destroyed. Industry, commerce, and society must be reconstructed and reconstituted on a new plan to meet the altered conditions. We have the opportunity of making a new beginning, and it is for us to approach the complex problems which face us with open minds anxious to build upon a sure and solid foundation, endeavouring to keep all the various factors before us in due and proper relation.

Reconstruction is the comprehensive word which expresses the problem that faces our country in every industry, calling and profession. In our own case, the practice of our art during these years of war has been almost entirely in abeyance. We have had to submit to restrictions greater than those imposed upon any other profession, and we have done so cheerfully and willingly. Our younger members have with one accord diverted their energies from the arts of peace to those of war, and while we are proud of what they have accomplished, we remember with sadness, though with gratitude, those who have fallen in the struggle. We shall welcome those who come back to us and endeavour to make their return to peaceful occupations as easy as may be.

I have alluded to the restrictions that have been placed upon our work, which have borne very hardly on most of us. We have submitted without complaint because we knew that it was necessary and essential to divert the whole energy and resources of the Empire to the one purpose of defeating a thoroughly organised and well prepared enemy. With the restoration of peace that necessity will exist no longer, and we feel that we should not be asked to bear longer than is vitally necessary a special burden which other members of the community do not share. It will be within your recollection that early in the present year a General Meeting was held here at which a resolution was passed for trans-



mission to the authorities asking that on the conclusion of peace all such restrictions should be removed forthwith. That resolution was duly conveyed to the proper quarter.

Following that, a conference of architects, surveyors and builders was held for the purpose of considering some of the problems which will arise after the war, at which a similar resolution was passed, pointing out that the abolition of control in all matters relating to building, and particularly in materials, is the best means of stimulating production, which is of most vital importance. That resolution was conveyed to the Minister of Reconstruction by an influential deputation, and the considerations which had influenced our opinion were fully explained. We were received most sympathetically, but notwithstanding our efforts I gather that some measure of control or restriction is to be imposed, though there is reason to believe that it will be of such a nature as to bear as lightly as possible upon the community and that its relaxation will be so rapid as to allow of a speedy return to normal conditions.

The necessity for some control is apparently dictated by the shortage that is anticipated in certain building materials, more particularly timber, which is mainly an imported product. Whether this shortage will be really so acute as some of us think is open to question, but, however that may be, the view is that measures should be taken to divert the supply available towards the most necessary and urgent national needs. This is quite a logical attitude, but it seems to some of us that control is not really essential, at all events in such building works as do not require materials of which there is a serious shortage.

The supply of timber from the Baltic, which has hitherto been our main source of supply, will probably be greatly restricted for some time, and it will be necessary for us to look to other countries. In this connection I wish to call your attention to the exhibition which is installed here of timber from the United States and British Columbia, timber which is in no sense inferior to what we have been accustomed to use and which is available in unlimited quantities assuming that the question of transport can be satisfactorily provided for, which I am assured will be the case. I need not remind you of the invaluable assistance and loyal support which have been freely afforded us by our great Dominion of Canada, in common with all our other Colonies and Dependencies. They have poured out blood and treasure without stint or limit. Surely it is our duty as well as our interest to support the staple industry of the Western States as far as may be practicable. I commend to all architects the careful consideration of this exhibition, and would urge them to provide for the use of such timber so far as may be possible in the buildings they are about to be engaged upon.

The same conference to which I have above alluded passed a resolution dealing with demobilisation which urged that architects and surveyors should have priority of release from military service on the ground that their work is a primary necessity for the reconstitution of the building industry. A deputation conveyed this resolution to the Ministry of Labour, and I believe that our suggestion will be acted upon and that the Institute will be asked to co-operate in carrying it out.

A difficult problem confronts us in the resettlement of architects who will be returning to civil life, more particularly those who were but partially educated in their profession and those whose studies were interrupted. It is a very serious matter for these young men to have lost four years of study and to have the date of their qualification put forward to that extent. While it is, of course, essential that they should be thoroughly qualified by a proper period of study and experience, every facility must be given them to acquire the requisite proficiency in the shortest possible period, and this matter has engaged the attention of the Board of Architectural Education, who are making such concessions as may be possible. For such men as will be released from the Army without any professional training I very much doubt whether architecture can be regarded as a desirable profession for them to enter, unless they are in a position to devote something approaching to the normal years of study to their qualification.

You are aware that about a year ago, at the instance of the Local Government Board, we instituted a competition amongst architects in England and Wales for designs for houses for the working classes

to be built immediately after the war by local authorities. Such houses have hitherto been built mainly by speculating builders without the intervention of an architect, but it is now felt that the problem is worthy of more serious consideration than it has received. The programme of our competition was carefully drawn up, and was conducted in conjunction with our Allied Societies in six separate centres, so arranged as to embrace the whole of England and Wales. The response made by the profession has been most gratifying, and most of you, no doubt, have seen the results exhibited on the walls of our galleries. Designs of four different types of houses have been selected in each centre, and these are to be published at once in book form with descriptive letterpress.

It was not to be expected that such a competition would produce anything very original or revolutionary, for the problem is of too simple a nature to allow of it. The real solution lies in a carefully considered balance of parts—in fact, a compromise in which the importance of each feature is duly weighed and given its correct relative position. I think many of our selected designs have very fairly secured this, though I would not say that any individual design is not capable of improvement in some particular. One of the main purposes which will be served by the holding of the competition is to identify architects more fully than has hitherto been the case with this class of building, and I have some confidence that local authorities will, in most cases, recognise that it is to their ultimate interest, both financially and otherwise, to employ independent architects to carry out these undertakings. It cannot be too strongly emphasised that in future these houses, which from their number and universal distribution form so large a feature of our town and countrysides, must be pleasant to look upon, healthy to live in, and carefully studied in their arrangements while at the same time being economical to build. In order to secure these virtues great skill and mature knowledge are essential in the designer, probably in a greater degree than is required for a more complex and expensive building. The very simplicity of the problem enhances its difficulty.

Following the competition we have suggested to the Local Government Board the desirability of actually erecting a small number of these cottages in a readily accessible position near London and furnishing some of them ready for occupation, so that they may be inspected and criticised by all those who are interested and serve as a general guide to those who are about to promote housing schemes. It is felt that by no other means can a really satisfactory solution be arrived at, for mere drawings cannot convey the same impression as the actual object in being. I am happy to say that this suggestion has been accepted, and we are now considering the details of carrying out the project with the least possible delay.

During the period of inactivity in the legitimate exercise of our profession, we are taking the opportunity of inquiring into the status of the architect. It is felt that, although the course of study and attainment required to equip an architect to carry out his duties efficiently is at least as severe as that required for other professions, from many causes the general public do not appreciate his position adequately. A very large amount of building is carried on either without an architect or under an entirely unqualified practitioner, thus bringing the profession into disrepute and leading to many abuses. The policy of the R.I.B.A. has been for many years to insist upon a very thorough course of training and education to qualify for membership, but unfortunately a large number of architects do not submit themselves to this course and consequently do not belong to us; indeed, the difficulty of admission may be said to act as a deterrent.

Is there any means by which the building public may be enabled to distinguish between the qualified and the unqualified?

Is it practicable, short of actual compulsion, to ensure that every man who seeks to enter the profession shall be properly qualified by education and training to carry out the duties of his position to the satisfaction of his client and the benefit of the community?

Have we, hitherto, properly correlated and adjusted the relative importance of the practical business and scientific side of our work with the historical and artistic aspects?

Can any steps be usefully taken to organise and unify the profession?

These and kindred questions are now being carefully considered, and the views of those competent to give opinions are being collected and noted with a view to so ordering the policy of the Institute as to lead to a general improvement in the position of the profession.

In this connection it is felt that architects have not hitherto adequately taken their part in public affairs, on many aspects of which they are peculiarly qualified to speak. We ought to have our representative in Parliament, and there are few local bodies which would not be strengthened by the addition of an architect member who would concern himself with the building projects of the district and its amenities.

I should like to see every town and village with its Amenity Committee consisting of those residents who are interested in its history, monuments and antiquities. I would have every new building or public improvement subject to the criticism and to some extent to the control of such a body. Here is a wide field for the activity of architects and one which would enable us to forward the education of the public in artistic questions which are generally lost sight of and submerged in the purely practical and utilitarian aspect.

Most of us have, I imagine, at various times during the course of our practice, been confronted and obstructed by the difficulties arising from our absurd and illogical laws (or absence of laws) in respect of light and air. As matters stand at present, an owner of property who wishes to rebuild is liable to be prevented from properly developing his site within the limits of the Building Acts by the dominant rights of adjoining owners acquired simply by lapse of time, and without any payment, consideration, or purchase. This is a very serious disability, and leads to the mutilation and crippling of many fine buildings. So far as I know no other country suffers from such a condition of the law.

The Council have considered whether any steps can be taken to amend the law (without, of course, interfering with any rights already acquired), and the draft of a Bill has been prepared the object of which is to prevent after a date to be fixed the acquisition of any indefeasible rights over adjoining property merely by the lapse of time.

The present moment appears to be a favourable time for putting forward such an amendment, as it is understood that shortly after the conclusion of peace a number of alterations in various laws are to be put forward, with a view to simplifying matters and avoiding needless litigation. I need hardly say that a full opportunity will be given to members to discuss this proposal in a General Meeting at an early date.

Now that peace appears to be so near to us the question of an adequate War Memorial is pressed upon us more insistently. The events of the past four years are so close to us that we do not realise the magnitude of the achievement which is to be commemorated, how narrowly humanity has escaped a colossal catastrophe, and how great and complete is the victory which is now being secured. Consider how Paris commemorated the Napoleonic epoch in the vast scheme of which the Place de la Concorde is the centre, and how Italy (far from being a rich country) recorded her war of liberation in the Victor Emmanuel Monument in Rome. Yet the events which these memorialise, great as they were, sink into comparative insignificance beside the present great world upheaval.

Surely we can and shall be able to find some means which shall mark for all time in a great and imperial manner the part which our Empire, widespread and world-wide, has taken in these events; some great scheme which shall rise above and beyond a mere project of estate development affording a promising field for the activities of the speculative builder. Such a scheme should be centralised in some great monument of a character to excite the imagination, and providing a field for the adequate commemoration of the share which every portion of our Empire has taken.

I venture to suggest that the scheme for new Charing Cross Bridge and its approaches and the removal of the station to the Surrey side of the river is such a project; with proper support by the

nation at large it is capable of being developed into a truly imperial project, worthy in every way of the great events which are now developing.

The Royal Academy has recently very properly established a Committee of Artists to assist in the initiation and execution of War Memorials, a necessary and useful office if we are to avoid former failures. Could not this Committee, enlarged perhaps and put on a somewhat broader basis, take into consideration the question of this great National Memorial, and prepare under its ægis a definite project which would be put forward with all the authority of the entire and united body of the artists of the Empire? What is wanted, I think, is some such definite proposal, and it is needed without delay. There is no reason why we should wait two or three generations for the realisation of the scheme. It should be carried through with the enthusiasm and energy which the war has called forth, and while the great struggle is fresh in our memory.

I should like to take this opportunity of congratulating our respected member, Mr. Banister Fletcher, on his election as Sheriff of the City of London. He and his father before him have had a long connection with the R.I.B.A., and it is gratifying to us to see him holding this post of high honour in our venerable city. We wish him every success during what promises to be a very memorable year.

I fear I have detained you too long, but I am sure you will see that we are confronted with many grave problems whose solution will demand all the wisdom we can command. The coming year is to be one of the most eventful in all history, and on the decisions to be taken will depend the welfare and prosperity of future generations. We look forward to the immediate future with high hope and confident expectation, feeling that we have passed through the worst days of trial and anxiety, and that we may at last emerge into a period of peace and prosperity.

## VOTE OF THANKS TO THE PRESIDENT.

MR. JOHN W. SIMPSON, *Past Vice-President*: Ladies and gentlemen: My duty to-night is both an easy and a pleasant one. You will all agree that we have had the privilege of listening to an excellent, practical and useful address, by a gentleman who had a very clear idea in his own mind of what he wished to say, and has used exactly those words which were best fitted to convey it. And that is very characteristic of Mr. Hare.

No public speech, in these days, can avoid a reference to the war; all activity, both present and future, whether within this Institute or outside it, is connected with, depends upon and revolves around that tremendous topic, and Presidential Addresses, for many years to come, will still be based on the problems it involves. But we have now good hope that, when the next Presidential Address is delivered, those dear lads who have left our homes and our offices, who have laid down the drawing pen and taken up the sword in our defence, will be with us once more to hear and to applaud it.

The President has, very rightly, made reconstruction the key-note of his address, for it most closely and urgently affects our profession. As to this, I know that I speak not only for this Institute, but for the whole building industry when I insist that the present restrictions shall be removed forthwith upon the cessation of hostilities (Hear, hear). That we may be short of some few raw materials for a time—of timber

and certain metals—is possible; and some measure of allocation as regards these is probably inevitable, on account of the difficulties of transport. But this shortage will soon cease if supply and demand are left free mutually to adjust themselves. We hear, I know, bland assurances that it is intended to remove control as soon as possible; but I confess to some mistrust. The officials in charge of the monstrous Departments which have sprung up, have come to consider themselves essential, and strong rearguard actions will be fought to delay their suppression and to save their stores, those gigantic dumps of correspondence, returns, forms and orders which they have accumulated, and we intend shall be consigned to the pulping mills. There must be thousands of tons of that raw material available to supply at any rate the shortage of paper. We are, it seems, to have, very soon, a General Election; and the most definite assurances should be required of all candidates that these Departments shall be abolished, root and branch; and that the innumerable clerks and clerklets who, like a plague of flies, feed upon and exasperate our commerce, shall be put to some productive employment. The President is, I know, at one with me in this, and I need not linger to dot his i's and cross his t's. He has indicated the steps which the Royal Institute is taking in this matter, and we may congratulate him upon them.

But there is one point on which he has not touched,



on which also the Institute is to be congratulated, and that is on its choice of a President. We have always been very fortunate in this respect. I am able to remember, during my membership, eighteen different Presidents, of whom the first, I think, was George Edmund Street. In every case it can be said that, by common consent, he was the best and most suitable man who could have been chosen, and Mr. Hare is no exception to that rule. And, if I may, I am going to tell you why that has been and is so. We architects criticize one another's work very openly and very freely; we resort, at times, even to personalities. But, as a profession, we are I am thankful to say almost entirely free from jealousy. (Hear, hear.) The custom which prevails among us of open and loyal competition by means of submitted work; has taught us to give and to receive hard knocks without bitterness; for there is no place for intrigue or for improper influence in anonymous conflict. So when an important commission is entrusted to a capable man, or Royal honours fall in his way, or he is called to some office of dignity, as in the present case of Sheriff Banister Fletcher, all we, his brethren, rejoice in his good fortune, and take him for an example, and feel ourselves to be all honoured and strengthened when one of us is distinguished. It is a thing I am proud to be able to say, and I am proud to belong to a profession for which it can be claimed. And that is why we are able to select our Presidents, instead of taking them by rotation and seniority; and that is why Mr. Hare sits where he does to-night.

Ladies and gentlemen, it is with pleasure that I move that our best thanks be given to the President for his Address.

MR. S. PERKINS PICK, F.S.A., *Past Vice-President*, President of the Leicester and Leicestershire Society of Architects: I have very much pleasure in seconding the vote of thanks. We all share the hopefulness which the President has expressed. We have been for a long time under a cloud, and now the sun is breaking through we all hope to receive some benefit from it. During the past four years architects have suffered, perhaps, more than any other section of the community. Their work has not been appreciated, and they have been altogether neglected. I cannot think that this has been an advantage to the nation, because I believe that a very large portion of the work which has been carried out by the great public departments would have been better carried out, would have been more cheaply carried out, and would have been accomplished in much less time by the ordinary private practitioner. Therefore, though we do not wish to grumble unduly, I think we are entitled to air our grievances and to place them before the various departments of the Government. In this great struggle which has come upon us, we know perfectly well that everyone has to make sacrifices, but so far as our profession is concerned, we consider we have been hit unduly hard.

As to the restrictions which the President has mentioned, and to which Mr. Simpson also referred, it is evident to all of us that some restrictions will be necessary, at any rate for a period after the termination of the war. Otherwise those—and there will be a considerable number of them—who will clamour unreasonably to get possession of building materials will receive undue preference, and it is against that undue preference that some restriction must be imposed for a time.

With regard to the cottage competition, I consider this was one of the best investments in a small way that the Government has ever made. And one of the best things that the Institute has ever done to gain the confidence of a great Government Department was to assist them in this useful work. The result, I am sure, will be helpful to all those authorities—and there are many of them—who are considering the provision of houses for the working classes.

With regard to the President's proposal concerning the amendment of the law relating to the acquisition of light, there can be no doubt that this question of law or no law respecting light and air has been a crying shame, during the whole of my life at any rate. I think there can hardly be a man in this room who has not come into contact with the iniquity and injustice which the lack of some law regulating the acquisition of light has brought about. There are thousands of windows now acquiring a right to which they are not entitled. A man erects a building with windows close against his neighbour's property. And in order to prevent those windows gaining a prescriptive right to light, the neighbour may have to incur an expense of several hundreds of pounds. If the Institute can bring about any alteration, it will be of immense benefit to the community, and be appreciated by everybody who has to deal with these very difficult matters.

I have only one other word to add, and that is to support Mr. Simpson in his comment on the selection of Presidents. We are, I am sure, more than satisfied with the manner in which the Chair has been filled, not only during past years, but during the time Mr. Hare has occupied that honoured position in a very difficult period. May I make a suggestion as to the future? During the whole period of the existence of this Royal Institute the Presidents have been selected entirely from the Metropolis. I hope the time may not be far distant—I think it ought not to be far distant—when some member from a provincial area will usefully fill that Chair.

I beg heartily to second the vote of thanks, and I put it to the meeting that our very best thanks be given to the President for his Address.

The motion was carried by acclamation and the proceedings terminated.

## REVIEWS.

## THE FRENCH RENAISSANCE.

*The Dawn of the French Renaissance. By Arthur Tilley, M.A. 80. 1918. 25s. net. [University Press, Cambridge.]*

Under this attractive title Mr. Tilley has set out to trace the rise of the Renaissance in France. "It seemed to me," he says, "that to trace the beginnings of the French Renaissance and to lay a sure and firm foundation for the study of it as an organic movement affecting the whole life and thought of the nation, a wide and thorough survey of the ground must be made." Mr. Tilley has, assuredly, not failed of his programme. His account is a perfect storehouse of information. He begins with Petrarch, and after dealing at length with the Italian scholars and humanists, and the masters of the earlier Renaissance, Alberti, Brunelleschi, Bramante and Leonardo, he transfers his studies to France far back in the fourteenth century, to the Valois, the Dukes of Burgundy, and René of Anjou, till at length we reach the famous and disastrous expedition of Charles VIII. to Italy. This is described in detail; then follows an account of France during the reigns of Charles VIII. and Louis XII., of the awakened interest in Latin and Greek literature, of the earlier French scholars and humanists, and, finally, rather more than half-way through the book, we reach Part III., "The Renaissance in Art." For the general student the researches of Mr. Tilley will be of great value. His wide reading and knowledge have enabled him to collect and place together in a clear and concise form a vast quantity of not very easily accessible material, and the author's habit of quoting other writers (though he omits any reference to the writings of the late Edith Sichel) scarcely does justice to the authority that he can fairly claim for himself in his treatment of the literary side of his subject.

For the student of art, Mr. Tilley's account is less satisfactory. One is tempted to cry out with Prince Henry: "O monstrous! but one half-pennyworth of bread to this intolerable deal of sack!" Where amid this wealth of detail is the Renaissance itself? And it is here at the outset that I join issue with Mr. Tilley and the writers whom he follows.

One has to use the term "Renaissance" because it is in familiar use, but in regard to the arts, and especially architecture, it is wide of the mark. The new movement was not a new birth, but a new orientation of national genius, and there are two views as to what this actually meant. Most writers on this subject, and Mr. Tilley is among them, label a building or a monument "Renaissance" when they find on it some trace of the Italian ornamentalist or his French imitator. They begin their collections well back in the fifteenth century, and seem uncertain whether they should not end about the middle of the sixteenth. The other view, and it is one which I have endeavoured for many years to establish, is that the Renaissance (to use once more this silly question-begging

term) is a long continuing movement which established itself in France and other countries after a series of blunders and experiments, which in France, at any rate, did not reach its mature development till the middle of the seventeenth century under François Mansart, and which finally went down in the latter part of the eighteenth century before the onslaughts of the pedagogues and fanatics. "Hinc illæ lacrymæ"—buildings which Mr. Tilley deals with as Renaissance I should regard as Gothic, in spite of the trimmings and frippery of Italian ornament. After an exhaustive survey of many buildings which contain Italian motives of ornament, but which Mr. Tilley admits to be Gothic to all intents, he goes on to say that "Two years before the close of the reign of Louis XII., Renaissance architecture had taken a real hold in France." Now what is meant here by Renaissance architecture? If architecture means ornament, this might be true; if it means anything more, it is utterly wrong. It is an unfortunate thing that for many years past in this country, and even in France, the very citadel of the art, architecture has been regarded as merely an art of surface decoration to be classified by the detail of its ornament as "Norman," "E.E.," "Dec.," "Perp.," "Jacobean," "Queen Anne," "Georgian," or whatever it may be, according as it shows characteristics often laid down as typical by the writers of text-books quite regardless of history. If, for example, a building, though obviously Gothic in plan and construction, bears among its ornament any trace of the superabundant invention of the Italian ornamentalist, that building is at once pitched into the Renaissance locker—the case with nearly every one of the buildings referred to in Mr. Tilley's collection. Yet on the W. front of S. Riquier, a few miles from Abbeville, "Renaissance" ornament appears on the lower part of the entrances, but as the building rose in all its glory, all trace of it disappeared. S. Riquier is one of the finest W. fronts in France, and it is very late Gothic. It looks as if its designer and builder, confident in his strength, tried the new motive as an experiment, and dropped it as not worth going on with. It is clear from the evidence of buildings that French builders at the end of the fifteenth century only used this Italianate ornament because their employers made them do so. Meanwhile they followed the building tradition of their fathers, and the lordly patron or the great financier, anxious to be in the fashion, but quite ignorant of architecture, imagined he had got an Italian palace when all he had got was a Gothic château with Italian ornament. When Georges d'Amboise was building Gaillon, Brunelleschi had been dead for over fifty years and the Pitti, Antinori, Riccardi and Strozzi palaces were already built. What was there in common between the châteaux of the Loire and this grim architecture of Florence? Just nothing at all. Yet Brunelleschi, Michelozzi and Cronaca were not unworthy exponents of the Renaissance.

In these French buildings, in which Mr. Tilley finds

not only the dawn of the French Renaissance but actually Italian Renaissance architecture, it is impossible for an architect to find any trace of the intellectual qualities that give undying value to the great Italian masters, and I would ask the author to consider whether "The Twilight of French Gothic" might not have been a more appropriate title than "The Dawn of the French Renaissance."

Mr. Tilley has been misled by his authorities in several details. He repeats the legend of Bachelier of Toulouse, and states that this person studied for fifteen years under Michael Angelo. A few years ago I investigated the alleged work of Bachelier at Toulouse on the spot, and all I could arrive at was two doubtful doorways, about as remote from the manner of Michael Angelo as it would be possible to conceive. Bachelier appears to have been one of the numerous French master builders of the sixteenth century whom Palustre persisted in magnifying into architects of genius. Then there is de Geymüller, whom Mr. Tilley seems to regard as a first-rate authority. De Geymüller was an extremely laborious antiquary with little critical insight into architecture, and an extraordinary capacity for finding mares' nests. So we have the familiar tale of Fra Giocondo, Il Boccador and the rest. Mr. Tilley says: "The definite introduction of Renaissance Architecture into France begins with the installation of Charles VIII. after his Italian expedition of a small colony of Italian artists and workmen at Amboise. . . . Architecture is represented by Fra Giocondo, Domenico da Cortona and Messer Luc Becejeame." Of Fra Giocondo Mr. Tilley says: "His fame (as a practical architect) has been firmly established by Baron von Geymüller." The Baron, undaunted by the fact that there is no reference to Fra Giocondo in the building accounts of Gaillon (published by Deville), maintained that in fact he was the architect of Gaillon, because the decoration of its south east loggia resembled that of the Palazzo del Consiglio at Verona. On this argument Fra Giocondo might have designed most of the considerable houses in France of the time. In point of fact, the only work in France in regard to which Fra Giocondo is known to have been consulted, was the building of the Pont de Notre Dame at Paris, and Sauval says the design was made in 1507, not by Fra Giocondo, but by Didier de Felin, "maître des œuvres de la maçonnerie de la ville." These legends die hard.

So again with Il Boccador or Domenico da Cortona. This man was a maker of models for buildings, not necessarily a designer, but a skilled cabinet-maker who worked to instructions. His model for Chambord was still in existence when Félibien wrote at the end of the seventeenth century. The only building with which he is known to have been connected as "architect" was the old Hôtel de Ville de Paris, begun in 1533—and there he was placed in charge of the works at an annual salary of 250 livres, and I doubt if he was really more than a foreman. The suggestion which Mr. Tilley quotes from another writer that Il Boccador

held the same sort of position at the court of François I. that Inigo Jones held at the court of Charles I. is without any foundation in fact. Il Boccador was an ill-paid craftsman whose work, so far as the court was concerned, consisted of making wood models of houses, bridges and mills. For this in the year 1532\* he was paid by the crown a sum of 900 livres for work extending over fifteen years. In the same year the Bastard of Chavigny received 1,200 livres for one year's salary as commissioner for the building of Chambord. It is evident, therefore, that poor Boccadoro was not thought much of by the court, and was in an entirely different position from that of Inigo Jones, a highly important person at court, the friend of kings and princes, an architect with a European reputation, and one of the most distinguished artists of his time. History is not helped by these purely imaginary pictures, and I do not know why Mr. Tilley should say that "S. Eustache in Paris was almost certainly designed by the Italian architect Domenico da Cortona," when it is known that the builder-designer was Pierre Le Mercier, and the church was not begun till 1552. The fact was that the venture of Charles VIII. missed fire and Louis XII. did not care twopence for the arts.

Mr. Tilley's reference to domed chapels is curious. He says: "The Mausoleum Chapel of Anet was built probably between 1560 and 1566. The Valois mausoleum at Saint Denis (now destroyed) did not approach completion till about 1590, and its designer . . . was the Italian Primaticcio." There are several inaccuracies here. By the "Mausoleum Chapel of Anet" I presume Mr. Tilley means the "Chapelle Funéraire," to the west of the house, built to receive the tomb of Diane de Poitiers, but this chapel was not begun till 1566, and it was consecrated in 1576. Moreover, it is not domed, but is an oblong building with a brick barrel vault. The only domed chapel at Anet is De l'Orme's well-known building, begun in 1552. As for the chapel of the Valois, it is not known who was the architect. There is no authority whatever for attributing it to Primaticcio. Palustre thought it was designed by Lescot, but much more probably De l'Orme designed it before his downfall. The chapel, though intended for a dome, never, in fact, had one. It was begun in 1560. In 1582 Baptiste du Cerceau carried the building up to the terrace above the second stage, and there the work stopped. The dome was never built, and the whole building was destroyed in 1719. Mr. Tilley says the chapel of the Visitation of the Filles de S. Marie (Rue S. Antoine) was "the first example of a French church in which this characteristic feature of Italian Renaissance architecture (the dome) is the determining factor of the design." This is not the case. De l'Orme introduced a dome at Anet, and in the design for the chapel of the Valois if, as I think, the design was made by him. The first

\* See "Dépenses Secrètes de François I." *Les Comptes du Bâtiments du Roi*, II. 204.

instance of the motive of a dome over the crossing was Le Mercier's design for the Church of the Sorbonne. Nor is Mr. Tilley happier in his critical appreciations. He ranks J. A. du Cerceau, a good draughtsman and bad ornamentalist, with architects such as De l'Orme, Bullant and Goujon, and, on the other hand, makes this astonishing pronouncement: "Before the close of the reign [of François I.] a type of architecture was established in France which, with some modifications in detail to suit changing conditions of society, remained essentially the same for 300 years." Is Maisons essentially the same as Azay-le-Rideau, is the Petit Trianon essentially the same as Anet, is the École Militaire essentially the same as Chambord? If they are, there is nothing in architecture, and we may as well burn our tee-squares and have done with it. Of course they are essentially different, but generalisations such as this, wrong in fact and wrong in judgment, make one despair of architecture ever being rightly understood in this country.

Mr. Tilley's account of French sculpture and French painting at the end of the fifteenth and early part of the sixteenth century is very full of detail, but appears to me to be open to the same criticism as that which I apply to his treatment of architecture. It is based on a fundamental misconception of the French genius. All serious students of art admit the vast range and individuality of that genius, its feeling for beauty and fitness, its glad appreciation of the movement of life, its instinctive sense of all that is great in it. To treat the blunders of the master-builders, the uncomfortable pietism of the primitives, the contortions of the Flemish craftsmen, as manifestations of the real soul of France, seems to me a misreading of history, not the history of texts and documents, of "provenance" and all the jargon of critics, but of the history written for those who can read it on the buildings, the monuments and the pictures themselves. All this sad-faced craftsmanship, these deplorable entombments, such as that of Solesmes, these dismal altar-pieces of minor Flemish masters, are not expressions of the soul of France, but morbid aberrations, travesties of that clear and gallant spirit that revealed itself in the great days of Gothic architecture, and shook itself free of its graveclothes and sprang again into glorious life in the art of Goujon and those who followed him.

It seems ungrateful to cavil at a work of such wide reading and research as this by Mr. Tilley; yet the aim of history is not merely to assemble materials, but to make clear to others what they mean. "The Renaissance" was something very much greater than the quips and cranks of ornament which to inferior men, such as J. A. du Cerceau, seemed to be the whole of its message. It was nothing less than the recovery of the youth of the world. To the greater minds of that time, first in Italy, then in France, it meant the spirit of brave adventure, ever questing—sometimes in strange lands outside the walls of the City of God—yet ever pressing forward to fresh

conquests in scholarship, in letters, in science, in the arts, careless of the gains of lesser men, intent on high ideals that were never reached. This is the true Humanism. Prigs and Revivalists have done their best to suffocate it, but it is alive to this day, and it has yet its work to do.

REGINALD BLOMFIELD [F.].

*Frognaal, Hampstead, October 1918.*

## THE PROBLEM OF THE DEVELOPMENT OF CITIES.

By PAUL WATERHOUSE, Vice-President R.I.B.A.

(From the new Anglo-Japan so monthly, *The New East*, edited by Mr. J. W. Robertson Scott, and published in Tokyo.)

We say in England that "the child is father of the man." In this sense the village is the father of the city, and it is, to tell the truth, a very unsatisfactory parent. Nearly all the defects of a modern town are due to its parentage. The long historical vicissitudes which contribute so greatly to the honour, fame and prosperity of any great European metropolis are in themselves as a rule the cause of that town's shortcomings. It is a curious fact—and quite uncontested—that no large and ancient town on the European continent or in Great Britain started its career as a town with the same objects and functions as those which are fulfilled by its modern existence. The wayside village has become a centre of industry. The pastoral hamlet has grown into a mining community. The Roman camp has been in turn, a mediæval fortress strong against bows and arrows, a walled city impregnable by the cannon of the mid-nineteenth century, and finally its ramparts, powerless in face of modern artillery, have shrunk into boulevards and terraced gardens beyond the boundaries of which the ever-growing population has spread out into innumerable suburbs or faubourgs. All over Europe towns once self-contained have spread till they absorbed adjoining centres of habitation; everywhere the small town has grown into the large town; on all sides we see roads that once were the very cause of a town's existence becoming not the master but the overburdened servants of the cities they at one time controlled. Seaports have become watering-places; fishing villages have become ports, and towns in which the convergence of main roads once provided a convenient centre of traffic and commerce have lived to curse, not bless, the concentration which has become an obstruction.

We English have in London a great object lesson of the advantages and disadvantages which spring up side by side as the result of continuous historical prosperity. The town took its situation originally from a variety of influential causes on a particular bend of the River Thames. The river was to that infant town its protection from enemies, its water supply, and its harbour. Starting, after the Roman occupation, as a Saxon town of about 400 acres its road formation consisted roughly of a confluence of seven or eight main streets leading respectively to the gates and the main ford over the river, and it must, for long years, have been well satisfied with the compact centralisation of its form. The radiation of the roads brought the traffic from the outlying parts of the kingdom by fairly direct routes to the very heart of the town. Every need of the citizens was ministered to by the disposition of the plan. Its two great markets were easily approached, its churches, probably two in number, were within convenient access from all quarters, and the roads themselves, if narrow in



comparison with modern highways, were no doubt quite wide enough for the sparse traffic of those primitive days. It must be remembered also that the population was no large one in comparison with the area enclosed and that many parts of the city were still comparatively free from buildings. There were no doubt many gardens within the wall, and there were certainly two large markets, one near the great church of St. Paul and the other corresponding in position with the modern markets of Leadenhall and Billingsgate.

It is unnecessary for purposes of this paper to study the gradual growth of the town century by century. It is enough to note that by the time 500 further years has passed London, already united with the neighbouring Westminster, and owning a considerable suburb on the South to which it was united by a bridge, had increased in size to nearly 4,000 acres. In the seventeenth century an event occurred which throws a most interesting light on the relative requirements of a town of the present time and one of 250 years ago. The Great Fire of London in 1666 swept away an area of buildings in the heart of the city which corresponds very closely to the walled space inside the boundaries of the town of 1000 A.D. This clearance gave an opportunity to the planners of the time for scheming a reconstruction of the road formation. Two schemes were prepared,\* one by John Evelyn and another by Sir Christopher Wren. Neither plan was carried out, but both are very instructive to us from the fact that they are totally unsuited to the problems which beset modern London. The notable characteristic of each is that it maintains and even accentuates the tendency to concentrate the main roads in a radiating attack on certain selected points. In other words, London was still small enough to enjoy rather than to dread the convergence of thoroughfares at particular spots in the very heart of the town's commercial activity. The reason for this was twofold. In the first place London still had one heart, not several. It is true that Parliament and certain Governmental activities were by this time decentralised at Westminster, but as far as the City proper was concerned, its bank,† its mayor, its exchange were single institutions. And the second reason is that of course in those pre-railroad days the roads were the means of long distance traffic, and though the coaches did not all start from the same spot there was a certain advantage to travellers in starting from and being conveyed to a terminus as near as practicable to the centre of the town. When we consider also that the traffic—that is the multiplicity of vehicles—was not such as to crowd the roadways unduly it becomes clear that there did not exist the reasons which now prevail against the accumulation of vehicles in the principal thoroughfares. There was yet another factor which influenced Sir Christopher Wren and his rival in their schemes. The Thames which is nowadays practically unused for passenger traffic above London Bridge was in those days the fashionable highway between London and Westminster. Persons of wealth and rank always travelled for choice by water when making their way from the East and to the West, or from either to those pleasant homes of the nobility which fringed the river between the Abbey town of Westminster and the business quarters near the Bridge. One must not insist too much on the fact that London Bridge was the only bridge, because the citizens of all ranks were wont to cross the river at all points from the

many landing stages and stairs which were erected for the convenience of private barges, hired boats and public ferries.

But to-day the conditions and consequently the requirements are wholly changed, and it is this complete subversion of the problem which makes the present means of traffic so inadequate and which gives the student of town-planning such an interesting question to solve.

No apology need be offered for taking London as an example, for the fact that it is an extreme case makes it specially illustrative of the difficulties of adapting an ancient town to modern needs, and it is fairly certain that many of the lessons it teaches must be applicable to almost every town wherever placed that has to contend with this most engaging conflict of antiquity with the needs of the present.

Our modern London, to consider size alone, has grown from its Saxon 200 acres and its Elizabethan 4,000 acres to a size of 88 square miles. These figures are those of the metropolitan area. Greater London, a fringe of suburbs indistinguishable from London proper except by an invisible and rather arbitrary boundary, increases the total area to over 300 square miles. When it is considered that the old Saxon town, the City proper, is almost denuded of inhabitants at night, that nearly all the workers in the industrial and shopping centres outside the City boundary are also daily migrants, and when it is further realised that the homes of the workers whether manual or intellectual are in many cases actually outside the limits even of Greater London, it will become obvious that the strain upon the roadways of conveying or helping to convey this mass of travelling population to and fro every morning and evening presents a problem of which the wisdom of our forefathers had not the slightest foreknowledge.

A few further considerations will make it clear that the problem is much more confused and complex than even the foregoing facts suggest. London is no longer centralised. Her bank is not one but many, and each of the many banking companies have branches all over the town. Her administration of justice, though the law-courts for important cases are on the borders of the City, is decentralised; police courts and county courts being placed in different districts. Her municipality is split up, for while the Lord Mayor still reigns in the heart of the town, the surrounding portions are administered as separate boroughs, in spite of the centralisation near Westminster of the London County Council, whose functions, not identical with those of the municipalities, are general rather than local. It therefore is a fact that the centre of the City has lost its importance as a point to which everyone must necessarily come for some purpose or another, and the conveyance of main thoroughfares in the ancient centre of the town's activity merely means to-day that many people are brought there who would be glad to avoid the overcrowding and congestion of a spot which they themselves unwillingly help to overcrowd.

Railways when first introduced very naturally pursued the same policy of landing their customers as near as possible to the centre of the town. Mercifully difficulties of one kind or another thwarted this policy, and though some of the main lines have their termini actually within or on the edge of the Saxon town, others have been kept at a respectful distance. Had it been realised that London was eventually to be intersected with a network of subterranean railway lines which serve, though at present inadequately, to link the main termini with one another it is possible—one cannot say more—that every terminus would have

\* Among others.

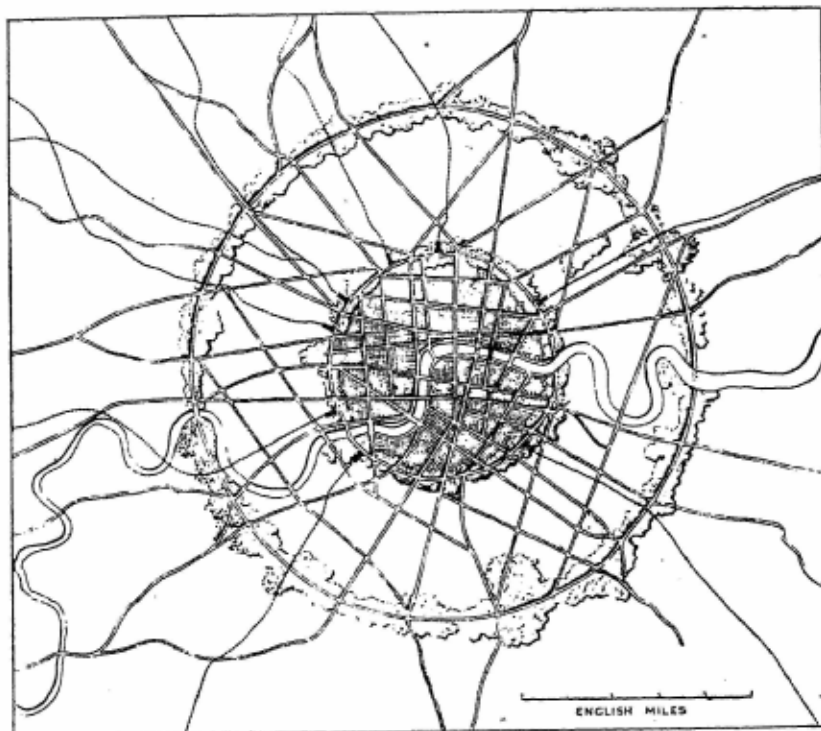
† I am aware that the Bank of England was not actually founded till 25 years after the Fire.

been placed at least a mile from the centre. I say "It is possible" not "it is certain," for even now there are persons who advocate the establishment of a central railway station at which all the lines should meet.

It should be clear to every careful student of traffic problems that no town of over three million inhabitants would gain any advantage from a station of such a size as the agglomeration of eight or nine main lines would require. The pedestrian journey inside such a station would be wearisome, the search for the required train would be prolonged, and the congestion of wheeled traffic in the neighbourhood of the station would add quite unnecessarily to the encumbrance of the streets.

been spanned by no less than 10 additional road bridges, to say nothing of railway bridges and tunnels. It is true that these bridges have not superseded the possibilities of up and down traffic by boat, but for some reason or other, though in my boyhood steamers were largely patronised for such journeys, experience has proved that this means of transport for passengers is not sufficiently patronised to be a paying concern.

The road problem though complicated can be easily explained. Our difficulty in London—and it exists to a less degree in other large towns—is twofold. Our streets are congested and the obstruction where main roads cross one another is productive of almost intolerable delay. It has



The above diagram plan represents a city on the site of London and illustrates some of the principles and features advocated in the present article. Assuming a river of the same course as the Thames, also roads and railways approaching the town as at present, the diagram exhibits (1) the use of two circuit roads surrounding the inner and outer portions of the central town; (2) the necessary bifurcation of the main approaches to secure distribution of traffic; (3) the avoidance of traffic centres at which more than two roads meet and cross; (4) the occasional use of "over and under" intersections, and, (5) the placing of the railway termini at a uniform and convenient distance from the centre.

I would make it a cardinal consideration that a large capital served by several railways should have the terminal stations of those railways at least one mile from the centre.

And now it is time to go back to the road problem, which after all is the main problem, for the plan of a town is nothing more than the relative disposition of houses and roads. Before doing so I must complete our examination of the London example by pointing out one more fact that has effected a great change in the needs of the town. The ancient prevalence of water traffic along the Thames or across the Thames by boat has been entirely overthrown by the introduction of additional bridges. Since the days when London Bridge was the only bridge, the five miles of water between the Tower of London and Battersea have

been found by experience that even at an ordinary crossing where two streets of importance are at right angles to one another it is necessary to regulate the traffic by placing two policemen on duty, who alternately hold up the traffic going say East and West in favour of that going North and South and vice versa. This procedure, though it prevents a hopeless mingling of conflicting vehicles, produces delay and naturally produces also congestion of vehicles behind the spot where the temporary stoppage takes place. The expedient still popular among certain experts of relieving congestion by the widening of main thoroughfares naturally does nothing to relieve the delay caused by this device of alternating arrest of vehicles. In fact the only remedies which can help this particular difficulty are two. One is an

expedient, which has been adopted in two or three places where a variety of levels in the roadways thus approaching one another has permitted the formation of what may be called an over-and-under crossing. In this system one street is carried across the other upon a bridge or viaduct. This is only possible where a difference of level of not less than 30 feet is obtainable, and even so a difficulty may be brought about by an unduly steep gradient in one or both of the streets affected, and there is a further difficulty in the fact that sometimes vehicles require to pass from the high level street to the low level street which is crossing it. It therefore becomes necessary to provide branch streets which pass from one level to the other by a sufficient detour to render the gradient easy enough for ordinary horse and motor traffic.

The other device by which these congested crossings can be relieved is that of providing alternative parallel routes so conveniently placed as to tempt the traffic to ease the previously congested thoroughfares by selecting the less crowded route.

This consideration brings me to the discussion of a fact in regard to the approaches to towns—or to the centres of towns—which is often unaccountably overlooked. Every main road which conveys passengers and goods from an outlying district becomes more and more crowded with traffic as it approaches the centre. The reason for this is obvious. The vehicles from a distance are joined as they approach town by other vehicles, which either start from origins on the road side or come in from side roads. Reverse the process of observation, and follow on any map the course of a road which starts from the centre and works its way into the outer districts and thence into the country. That road as it goes constantly bifurcates in order to give access to those tracts of town, suburb, or country which lie in the wedge-shaped territory between the radiating roads. This bifurcation is in itself one of the main causes of the fact that every arterial road carries an increased bulk of incoming or outgoing traffic on those parts of its mileage which are nearer the centres of the town. Now is it not clear that if in planning new approaches to a city we could reverse this process of bifurcation we should at once introduce a system of relief? We should as a matter of fact do much more. For when a number of vehicles are approaching a town it is at least probable that not all of them wish to reach the centre at all. If therefore we can provide a means by which an incoming vehicle can in the outer and less crowded regions choose a branch from the straight track which will take it by a short route to the very part of the town which is its destination, we shall perform a double and most useful purpose. We shall shorten the journey in time and space, and we shall relieve that overburdened thoroughfare of a large portion of its traffic.

Such bifurcation should be supplemented within the town by good alternative roads parallel to one another and—still more important—by circuit roads running circumferentially round the inner and outer suburbs.

The use which can be made of such circuit roads in adding to the beauty of a town is immense. One of the saddest features of our towns—a feature perhaps more prevalent in England than on the Continent—is the degraded squalor of the twilight region between pure country and pure town. This is due very largely to the fact that in an open wall-less town, where no definite barrier is set up as the boundary of the town, the limit between the urban and rural conditions fluctuates. The gradual increase of the town absorbs bit by bit portions of property

which were originally agricultural, so that there is on every radiating road of access an ever-shifting space of perhaps a mile in length, in which the country is undergoing a gradual degradation under the pressure of the outpost forces of advancing town. And these outpost forces, not having the full vigour of central city culture, are as a rule but feeble and unlovely growths, not strong enough wholly to conquer the facts of field and wood, not vigorous enough to be equipped with the beauty or strength of healthy and opulent town architecture. Whatever there is of country element mingled with the elements of town should be before all things vigorous and beautiful. Any mingling of half dead country with half created town can only be dispiriting and ungainly. A perfectly beautiful town, however large, should stand surrounded by a wall or by some compacted array of boundary buildings against and up to which pure unsullied country should surge as the waves of the sea encircle a cliff. This rule does not debar the inclusion of well wooded grassland or parks within the town itself. Indeed parks, tree-planted squares and tree-bordered roads are essential elements in the arrangement of a well-ordered town. My protest relates solely to the desirability, at the outskirts of a town, of making sure, in the interests of beauty, that there is such a meeting between the best-looking rural effects and a certain display of worthy buildings as shall make sure that the edges of the town—which should be its welcome to the advancing strangers—are a well-arranged and well-considered design, not merely an indecisive conflict between expiring vegetation and poverty-stricken bricks and mortar.

This worthy object may be largely aided by the judicious introduction of the circuit roads just alluded to. If the town terminates merely at indefinite points in the course of radial, or as we say arterial, roads it is difficult to define a limit; but the circuit road—which may if necessary be succeeded, as the town requires to spread, by another circuit road of larger circumference—gives an admirable opportunity for fixing with decency and beauty the point where for the time being town shall end and country begin.

#### Architects and the Housing Question.

MR. G. A. HUMPHREYS [F.], of Llandudno, asks for space in the JOURNAL for the following extract from a letter, full of sound advice to architects, which appeared in the *Builder* for 20th September:—

You architects are going to have the time of your lives if you can save these housing schemes from drifting out of your hands and into the hands of local councils and jerry-builders. Your architectural associations, institutes and committees will have to take the lead, assert themselves collectively in public and private, and show that they really are a vital force, a body of men of action, and not what the public imagines, a mere school of learned students and *virtuosi*. Your profession has, unfortunately, not developed two sides, as has happened in the case of law and medicine—the consultant or consultative (specialists, counsel, &c.), and the active that cultivates the public (practitioners, solicitors, &c.). You all lean towards the passive function of waiting till the tide rolls up to your doors; but here is the tide already rising towards you, and I hope to hear that some organisation is going to be formed to deal with it and convert it into something. The country is crying out for a reorganised, reconsidered and replanned England and only wants guidance.

## LIVING ARCHITECTURE.

By Professor W. R. LETHABY [F.].

Extract from No. IV. of the series of articles by Professor LETHABY now appearing in the *Builder* under the title "A National Architecture."

Concrete seems to be a poor building material, but it brings back one of the fundamental methods of construction—that of continuous aggregation, a method which, while the material was mud, first produced vaulted and domical buildings, a great class of structures which are the natural outcome of such plastic materials. It thus gives to us once more the possibility of erecting solid roofs. Such a system of homogeneous building, with roof of cylindrical, conical, domical or other forms—the low dome, cone and pyramid seem especially suitable forms—taking the place of the poor wood and slate coverings we have been accustomed to, opens up large possibilities of more dignified and interesting types of planning as well as more monumental super-structures.

A weakness of modern architecture is in its not having sufficient grasp of modern scientific construction. The failure of English engineering is that it is usually mean and brutal, like Charing Cross Bridge, or, ashamed of itself, it seeks for disguises like those of the intolerable Tower Bridge. Judging by its works rather than its claims to "science," our engineering seems often both ignorant and impotent.

We have both to get rid of fear and develop a proper pride for our own matters. There is nothing necessarily evil in modern materials or requirements; it is the spirit that tells. 'I have no love for modernism as such, and I would hide my head in the sands of the past, but I cannot help seeing that the courageous mind will shape even seemingly hopeless materials to its purpose. As I found well said in an examination paper, "these things are plastic to the spirit." Plastic to the spirit are even concrete and iron, if they must be used, no less than marble and bronze. The ideal for masonry has been definition and delicacy, sharply cut angles, moulding, carving. The ideal for concrete construction is much the reverse: it is that of continuous aggregation into a homogeneous, chambered mass; the structure is "cast"; simple forms and rounded edges are required. Its special disadvantage is in being liable to cracking, and the least cracking in such structures seems to destroy the possibility of our having any pleasure in them. A building of such a fabric should be as continuous and sound as a china vase. It is necessary first of all to improve the material so that it won't crack. Our continued use of materials like mosaic and cement floors in such a way that rivers of cracks wander over them after a few years is somewhat astonishing.

Once having mastered the material and having produced a fairly even surface, we have to bring out what it can best do on its own merits, and put away any attempt at imitating forms developed in stone and brick building. Curved lines in plan and slanting and curved surfaces would seem to be specially appropriate to this mud-like material which must be modelled as it were into form. Inferior angles of Roman rooms were usually rounded. Corners might be rounded both within and outside; cornices, if any, might be simple coves or rounds. The surface could be finished with white and colour washes, plastering, painting, rough-cast, sgraffito, marble-veneer, mosaic, glazed tiling and glazed terra-cotta applied in panels and medallions. The aim should be to develop structures in which the walls and roofs are all of a piece; and there is surely something ex-

citing in such a mode of building. The general design must in every case be arrived at as the best constructive solution of the given problem, but it must be a fine and civilised solution, not a raw and haphazard one like so many of our engineering works. Exquisite common sense is wanted. The aim should be for masterly construction appropriately or even delightfully finished. Beauty in structures is not a question of mere shapes, but it is the evidence of mind acting on materials. If we could have a fine market or railway shed (or even a cathedral) schemed like some of the wonderful war sheds drawn by Mr. Muirhead Bone, well built of its kind, flooded with light, carefully finished, brilliantly whitewashed like a lighthouse, and decorated with fine paintings, we might "catch our breath" once more at the sudden sight of a piece of living architecture. It would be as interesting as a concrete ship. Whenever our buildings are again designed for their purpose as directly as a fiddle, a gun or even a motor or airplane, they will be romantic once more. Again, let me say, my heart is with the old and the humble. I do not desire these scientific developments for their own sake, and it is a cursed spite that I must try to set them right. One of the buildings which has most interested me recently is the newest museum building at South Kensington, temporarily completed with the "style" left out. Many of the temporary war buildings are also direct and structurally interesting. Although such buildings are frequently only skeletons, they demonstrate that a piece of architecture may be got to stand up without shamming dead. Now, having proceeded so far, what prevents us going forward to finish and refine and even adorn the thing without burying it in undertakers' doleful trappings? Why is it that one may never see a building for its ornaments? Let us consider the "carcass" of an important public structure. A rim or lining of marble might be put around the doorway, and over it could be some fine heraldry carved, gilt, and coloured from the design of one of our heraldic experts; not the fat tame stuff we are accustomed to, but keen and vigorous. This would probably be enough, we don't want our buildings worried all over, we want richness and colour and food for thought, but we also need bareness and relief and peace. Or a set of fine sculptured panels, about something, might be set low down where they could really be seen and loved—really loved—not tolerated or hated. Or an inscription really saying something in clear, strong lettering might be cut in in a band high up, or in a large panel, or, again, this might be in mosaic of gold letters on blue, or black letters on gold—not timid and frightened and non-committal, but an inscription to lift up our hearts. Or between the windows might be a set of really handsome medallions in glazed earthenware, either in relief or only painted devices, or portraits, but again, with some meaning and intention—surely we are rich enough to have meanings and intentions. Considering the problems of finishing in some such ways as these, and forgetting the Gothic, Elizabethan, and Italian styles, there is no end to what might be done in a perfectly frank, reasonable and healthy way. If such a method were customary, architecture would at once stand out again as a sincere and manly art and gradually drop more and more of the powder and padding. I do not ask for bare and bald buildings—an architecture of the simple life and all that; not at all. I want to open a way to intelligence, expression, life and even exuberance. Quality of art is quality of life, and an architecture of reality is a necessary part of "the National Being."



# CONFERENCE OF REPRESENTATIVES OF ALLIED SOCIETIES AND THE R.I.B.A.: REPORT.

The Joint Committee of representatives of the Allied Societies and the R.I.B.A. was the outcome of a Special Meeting of the Council held on 18th June 1917 to discuss with representatives of the Allied Societies a series of Resolutions setting forth the views of a Conference of representatives of Allied Societies held at Manchester on the 18th April 1917.

The Resolutions put forward a claim for proportional representation of provincial members on the Institute Council, asked for more adequate facilities by way of recoupment of travelling expenses for the attendance of provincial representatives at Council and Committee meetings, and suggested the allocation of questions of general professional interest to quarterly meetings of the Council, which provincial representatives might make a point of attending. Other Resolutions urged the need for professional registration, the revision of the Conditions of Contract and the Schedule of Charges, and the importance of the constructional and business qualities as part of an architect's qualifications. The Allied Societies were stated to be practically unanimous in their support of these Resolutions, and at the Special Meeting the following further points were put forward by their representatives:—

Provincial members, it was said, did not feel sufficiently in touch with the Institute.

The Allied Societies should have more influence in the conduct of the Institute's affairs. London members had no idea of the difficulties architects in small centres had to contend with and were not helping the latter as they might do.

The Institute Council should give more consideration to the views of the Allied Societies.

Proportional representation would bring the Institute into greater prominence in the country.

Provincial representatives should hold their seats on the Council for at least three consecutive years in order to keep in touch with the work and that the Council might benefit by their experience.

Occasional meetings of the R.I.B.A. should be held in provincial centres.

The President of the Glasgow Institute suggested the formation of the Allied Societies of England and Wales into three or four groups somewhat on the lines of the new Institute of Scottish Architects, in order to keep in closer touch with one another and to simplify their representation on the R.I.B.A. Council.

At the Special Meeting above mentioned propositions were carried that a Joint Committee of representatives of the Allied Societies and of London members should be appointed to consider the various matters in question and report to the Council, that each Allied Society should be represented on the Committee by one member, and that the Council should nominate London members. It was agreed that at least one of the meetings should be held at a provincial centre, that the first should take place in London and the second at Manchester. Later, a third meeting was arranged for at Birmingham.

In view of the Council's undertaking to the General Body that questions of a controversial nature should not be officially discussed during the War, it was understood that the meetings would be quite informal, the President point-

ing out that any report made by the Committee would be solely for the guidance of the Council and would not commit them to any definite line of action.

As ultimately constituted the Joint Committee consisted of the following members:—

*Appointed by the R.I.B.A. Council:* Mr. Henry T. Hare, President; Mr. E. Guy Dawber, Hon. Secretary; Sir Aston Webb, K.C.V.O., C.B., R.A., Mr. Reginald Blomfield, R.A., and Mr. Ernest Newton, A.R.A., Past Presidents; Sir John Burnet, R.S.A., LL.D., Mr. J. A. Gotch, and Mr. Paul Waterhouse, Vice-Presidents; Mr. T. Edwin Cooper, Mr. W. R. Davidge, Mr. H. V. Lanchester, Mr. H. D. Searles-Wood, and Mr. Herbert Shepherd, Members of Council, and Mr. John Slater, Past Vice-President.

*Representatives of Allied Societies:* Mr. J. B. Gass (Manchester), Mr. R. Burns Dick (Northern), Mr. W. A. Harvey (Birmingham), Mr. E. P. Hinde (Liverpool), Mr. A. Watson (Sheffield), Sir Frank W. Wills (Bristol), Mr. D. Bowman (Leeds), Mr. S. Perkins Pick (Leicester), Mr. L. F. Tonar (Exeter), Mr. L. Kitchen (York), Mr. Harry Gill (Notts and Derby), Mr. J. Cook Rees (South Wales), Mr. J. B. Dunn (Edinburgh), Mr. J. Watson (Glasgow), Mr. Arthur Clyne (Aberdeen), Mr. W. Kaye-Parry (Ireland).

Mr. George Northover, Editor of the Institute JOURNAL, was appointed Secretary.

At the first meeting, held in London on the 4th October and attended by eight London members and nine representatives of Allied Societies, the President ruled that it was competent to the Joint Committee to discuss any other matters of professional interest in addition to those dealt with in the Allied Societies' Resolutions. At this meeting the first four of the Resolutions set out below were passed.

As regards Resolution No. 2 suggestions were made by the provincial representatives that important Council and Committee meetings should be held on the same day if possible, in order to meet the convenience of provincial representatives as well as of London members; also that the arrangement by which the Institute paid one half of the first-class return fare to London for the purpose of Council meetings should be extended to Committee meetings. It was further urged that the full return fare should be allowed and that the Council should be asked to take the matter into consideration. A suggestion was made in a letter from the Institute of Scottish Architects that one of the quarterly meetings each year might be held in one or other of the Allied Societies' centres.

Resolution No. 4 as presented by the Allied Societies urged among other matters the pressing need of registration and that endeavour should be made to attain it at the earliest possible moment. On this point there was evidence of want of unanimity among the Allied Societies, the Institute of Scottish Architects admitting divergence of opinion among its Council as to the desirability of statutory registration. A motion supported by the London members, urging that all reference to Registration should be omitted from the Resolutions on the ground that it was a subject which it had been agreed should not be debated during the War, was eventually carried.

As regards other points in Resolution No. 4, it having been pointed out that the Revised Schedule as passed by the General Body in London was not in some respects adapted to provincial practice, the President gave instructions that copies of the revised document should be sent to the Allied Societies with an invitation to them to formulate suggestions for its further revision and submit them to the Council. As a result the Schedule has been thoroughly overhauled by the Allied Councils and numerous suggestions for its revision in accordance with their views have

been sent in. At the Manchester meeting, held on 12th December 1917 under the management of the Manchester Society, both the Revised Schedule and the Practice Committee's Report on Expert Advice were discussed, and Mr. Gass undertook to send up to the R.I.B.A. Council a reasoned resolution subscribed by all the Allied Societies as representing the views of provincial architects, and setting out the modifications they proposed in the Revised Scale of Charges. The opinion was generally expressed that special fees for expert advice should be eliminated as far as possible; that responsibility for steel-frame and reinforced concrete construction should rest with the architect, and that he should qualify for the design of such work. It was contended that if this were not done, the tendency would be for clients to engage the engineer or concrete specialist direct and dispense with the architect's services.

The Allied Societies' Resolution No. 5 as first sent up was in the following form:—"By advocating a policy which regards Architecture mainly as a Fine Art, the Institute would appear to have departed from the terms of its Charter, and as the position of the profession has been prejudiced thereby it is necessary that full effect be given to the importance of constructional and business qualities as part of an architect's qualifications."

Questions as to the meaning of the Resolution were raised by London members, the President pointing out that the R.I.B.A. Examinations lean considerably more to the constructional than to the artistic side. After some discussion it was agreed that the Resolution should be recast and brought up at the Manchester meeting.

The Allied Society representatives, however, subsequently withdrew the Resolution and at the Manchester meeting proposed the following in its place:—" (1) That the Council be asked to consider what steps should be taken to bring home to the public and to the Government the value of the qualified architect's services in all building operations; (2) That it be a recommendation of this meeting that a strongly worded petition be sent by the Institute and the Allied Societies to the Government and its various departments, urging the importance of engaging duly qualified architects in all public building schemes in the future, and that copies of such Resolutions be sent to the Members of Parliament in the divisions of such Societies and to the various local authorities."

During the discussion the President referred to the efforts made by his predecessor in the Chair to secure from the Government recognition for architects. Mr. Newton's efforts, he said, had not been in vain, for it was clearly traceable to his persistency that many architects had been appointed to positions which by their training and experience they were qualified to fill but which in the early days of the National crisis had been altogether denied them. Reference was also made to the trust reposed in the Institute by the Local Government Board in inviting its cooperation in securing plans for the national scheme of working-class house-building which was to be set on foot at the restoration of peace. The Local Government Board had stated that it was their intention that architects should be employed in these housing schemes. Unless that statement had been made, the President said, the Institute would have declined to have anything to do with the Government scheme.

As regards official architecture, three of the Allied Society representatives mentioned that their City Corporations had decided to put all work over £400 in value into the hands of independent architects.

Amendments to Resolution No. 5 were moved by London representatives and carried, and the Resolution was passed in the terms indicated below.

The Third Meeting of the Committee was held at Birmingham on 20th March 1918 under the management of the Birmingham Association, and the Resolutions Nos. 6 to 16 set out below were passed.

## RESOLUTIONS OF THE JOINT COMMITTEE.

### *Representation of Allied Societies on the Institute Council.*

1. That to strengthen the position of the Royal Institute and to make it more truly representative of the architectural profession of the country, it is essential that provincial architects should have increased representation, so that their views should have due weight in the Council's deliberations.

Each Allied Society should select its own representative, either the President or other member of the Society, provided he be a Fellow or Associate of the Institute.

### *Attendance at Council and Committee Meetings.*

2. That as approximately one-half of the members of the Royal Institute and two-thirds of the architectural profession are located in the provincial areas, adequate facilities in the arrangement of dates and payment of railway fares should be provided for the attendance of provincial representatives at Council and Committee meetings.
3. That questions of general interest to the profession might as far as possible be dealt with at quarterly meetings of the Council at which provincial representatives should be expected to make special attendance, and that the Agendas of such meetings should be sent to the Councils of Allied Societies at least fourteen days in advance to allow time for them to instruct their representatives.

### *Professional Matters requiring early Settlement.*

4. That steps be taken at the earliest opportunity for the consideration of the Conditions of Contract, the Scale of Charges, and other matters of practical importance, so that such matters may be ready for adoption immediately after the termination of the War.
5. To ask the Council of the Royal Institute to consider what steps should be taken to bring home to the public and to the Government the value of the qualified architect's services in all building operations, and it is recommended that the importance of engaging duly qualified architects in all public building schemes in the future should be pressed as strongly as possible on the Government and its various departments, and on other authorities.

### *Revised Scale of Charges.*

6. That the R.I.B.A. Council be requested to take into consideration the unification, as far as possible, of the Scale of Charges of the R.I.B.A. with that of the Surveyors' Institution, and that the whole of the clauses relating to Surveyors' charges be omitted from the R.I.B.A. Scale, and the following clause be inserted: "The charges for Surveyors' work in connection with valuations, leases, dilapidations, mortgages, purchase or sale of property and for quantities, etc., to be those adopted by the Surveyors' Institution."

7. That this meeting considers the heading of the document is capable of improvement, and asks the Institute Council to reconsider it.

*Model Form of Agreement between Architects and Building Owners.*

8. That the Council of the Institute be requested to take into consideration the desirability of drawing up a standard concise agreement for architectural services based on the Schedule of Charges when settled.

*Professional Conduct.*

9. That this meeting is of opinion that Resolutions Nos. 1 and 2 with regard to Professional Conduct (KALENDAR, p. 70) be deleted and that the following be substituted: "That it is reasonable for architects to exhibit their names in front of buildings in course of construction and to sign such buildings on completion, but both in a strictly unostentatious manner."
10. That this meeting is of opinion that in Resolution No. 7 the words "House Agent" should be substituted for "Estate Agent," so that the Resolution should read: "That in the opinion of the Council the businesses of Auctioneering and House Agent are inconsistent with the profession of an Architect."

*Architects doing Work without Payment.*

11. That this meeting considers the practice of architects connected with public charities, etc., doing work without payment most undesirable, and should be discouraged in every possible way.

*Government Architectural Department for War-time Building and Government Control of Building Materials.*

12. That this Birmingham Conference of the Royal Institute of British Architects and the Architectural Societies allied therewith altogether directly representing the whole of the architectural profession of Great Britain and Ireland views with extreme apprehension the increasing interference of Government Departments with building owners and building operations. It is considered that such interference is undesirable in the National interests and the Conference strongly urges that the special architectural departments set up for War purposes should be disbanded when peace is declared, and that the Government control of building and building materials should therewith cease as far as possible.
13. That the R.I.B.A. Council be recommended to forward copies of the foregoing Resolution to the various Government Departments, and that the Allied Societies send copies to the Members of Parliament in their respective areas, bringing to bear as much personal influence as possible.

*Revised Charter of the R.I.B.A.*

14. That in view of the proposed New Charter efforts be made to achieve a closer association between the R.I.B.A. and kindred Societies.

*Provincial Members of the R.I.B.A. and Allied Societies.*

15. That the Council of the Institute be asked to use their influence to induce all members of the R.I.B.A. to become also members of their own local Society.
16. That the various Allied Societies be brought more into line as to their qualifications for membership.

Other matters discussed at the Birmingham Meeting included the need of a Defence Union to assist architects to protect themselves against unfair treatment. The Chairman, Mr. Hare, recalled that in 1913 endeavour had been made at the Institute to start an Architectural Defence Union. A Committee, called the Board of Professional Defence, had been instructed by a resolution of the Institute to prepare a detailed scheme for the creation of a Fund for Mutual Aid and Advice (Legal). The Committee produced a scheme based upon the Articles of Association of the Medical Defence Union which had been in existence thirty years and had proved of the greatest benefit and assistance to the medical profession. Little interest, however, appeared to be taken in the matter, for the Special General Meeting called to discuss the scheme in June 1914 failed to attract a quorum and nothing was done. The outbreak of war prevented the matter being brought up again.—The representatives of the Allied Societies asked that the question might be reopened, and that copies of the proposed scheme should be circulated among the Allied Societies.

The draft Revised Form of Conditions of Contract was submitted, and Mr. Searles Wood, Chairman of the Revising Committee, stated that the purpose of the Committee had been to prepare a set of Conditions which would suit architects and then to put the Conditions before the Builders and ascertain their views. He asked the Allied Societies to take time to consider the Revised Form and to forward their suggestions to the Institute.

In a discussion on the proposed Revised Charter [see JOURNAL for 1914], the desirability was urged of bringing about a closer association between the R.I.B.A., the Surveyors' Institution, and the Institution of Civil Engineers, and in the interests of unity it was suggested that steps should be taken to bring about the amalgamation of the Society of Architects with the Institute. Touching the question of Registration, Mr. Gass expressed the opinion that for the present the only means of obtaining Registration was by Charter. To make this practically operative the Local Government Board and Local Authorities must be urged to agree that no plans should be approved unless they had been prepared by Registered Architects. The scheme of Registration by Charter should be carried out at the earliest opportunity; it might prove the first step towards Statutory Registration.

The anomalous position of Surveyors to Local Authorities who carried on private practice was referred to. Such Surveyors are expected to interpret the By-laws against the interests of their own clients, to support the interests of those who employed their rivals, to inspect their own work and report thereon to the authorities. It was urged to be undesirable for them to undertake private practice.

Reference was made to the steps taken by the Birmingham Association to get established the City Council Advisory Committee, and it was suggested that Societies should be formed on the lines of the London Society in all towns having an executive committee of technical men, who might serve as an Advisory Committee on matters affecting the artistic development of their towns.

THE COUNCIL'S RESPONSE.

The foregoing Report was considered by the Council at their meeting on the 4th November, and the following response to the Resolutions was ordered to be communicated to the Allied Societies:—

*Resolution No. 1.*—The Council point out that the proposed new Charter [see JOURNAL, 9th May 1914, p. 429] provides for considerably increased representation of Allied Societies, every Society of not less than fifty members being allotted one representative on the Council.

The second paragraph of the resolution is agreed.

*Resolution No. 2.*—The Council call attention to the fact that single first-class fares are already allowed representatives of Allied Societies attending Council meetings. They consider that any further allowance thought desirable should be a charge on the Allied Societies.

*Resolution No. 3.*—The Council will arrange that three or four Council meetings be reserved for matters of general interest and that reports thereon be circulated among the Allied Societies in time for their representatives to be instructed by their Councils in advance of the meetings. As far as possible Committees on which provincial members serve shall be grouped so that several Committees may be held at different times on the same day, preferably on Council Meeting days.

*Resolution No. 4.*—Steps have already been taken in the direction indicated, the work of revision of the two documents referred to being well in hand.

*Resolution No. 5.*—This matter has long engaged the attention of the Council, and such steps as it is possible for them to take have been taken.

*Resolutions Nos. 6, 7, and 8.*—The various matters in question have been referred to the Scale of Charges Committee.

*Resolutions Nos. 9 and 10.*—The Council have already passed resolutions adopting the suggested modifications.

*Resolution No. 11.*—It has been decided to add a Resolution to those published under the heading "Professional Conduct" on p. 70 of the KALENDAR, stating that work involving the preparation of drawings and specifications should not be undertaken gratuitously for public charities.

*Resolutions Nos. 12 and 13.*—The removal of the present administrative restrictions on building and building materials was one of the points urged by the recent deputation from the Institute and other bodies to the Minister of Reconstruction [JOURNAL for July 1918].

*Resolution No. 14.*—This is one of the questions now being considered by the "Future of Architecture" Committee which the Council have set up.

*Resolution No. 15.*—The Council have adopted this Resolution and have directed a circular letter to be sent as desired.

*Resolution No. 16.*—The Council approve, and recommend the Allied Societies to summon a Conference to consider the whole question.

#### British Reconstruction Commission for Belgium.

It is announced that a British official mission has gone to Belgium to report upon the need for reconstruction. The whole matter of reconstruction, it is understood, is being dealt with by the Inter-Allied Reconstruction Commission and a special British Department known as the Belgian Trade and Reconstruction section of the Department of Overseas Trade. The mission consists of Sir Arthur Steel Maitland, Head of the Department of Overseas Trade; Sir E. Wildbore Smith, chairman of the International Commission; Sir Herbert Llewellyn Smith, of the Board of Trade; Mr. Keynes, of the Treasury; Mr. M. N. Kearnew, Secretary of the International Commission, and officer-in-charge of the Belgian Reconstruction Commission; Major Pheunis, Belgian delegate; and Major

Gunning, American delegate. It will be the business of the mission to make a tour of inspection of the devastated areas, and report on what is wanted.

## CHRONICLE.

### The R.I.B.A. Record of Honour: Fifty-seventh List.

#### Fallen in the War.

HALLEY, Major JAMES MITCHELL WHITE, R.E., *Fellow*. Killed in action.

TINNISWOOD, Lieut. ALFRED, R.E., *Licentiate*. Killed in action.

PITE, 2nd Lieut. HORACE VICTOR WALTER, Hampshire Regiment, *Student*. Reported missing 10th April (his 20th birthday), now officially reported killed in action in Palestine on that date. He was the younger son of Mr. William A. Pite [F.].

#### Military Honours.

TAYLOR, Captain J. A. CHISHOLM, D.S.O., Manchester Regiment, *Student*. Awarded the Military Cross for conspicuous bravery.

On 30th August this officer showed conspicuous bravery and initiative in an attack on Rencourt. During the advance, though under heavy fire, he continuously walked about his company directing operations and encouraging his men. After capturing the village, finding the enemy on his right flank and between his company and the company on the right, he led a Lewis gun section against them, driving them out of a sunken road. In this attack, he with his section killed a large number of the enemy and captured three prisoners and a machine gun. The initiative, resource, and leadership of this officer was responsible for the capture of Rencourt (*Report of Major-General Solly-Flood*).

COTTON, Captain PERCY P., R.E. [A.]. Awarded the *Croix de Guerre* by the French Government for gallant conduct in a bombing raid.

LENTON, Lieut. F. J., R.E. [A.]. Awarded the Military Cross for important signalling work.

#### Promotions.

Mr. Timothy Hotnor [F.] has been gazetted Lieutenant (technical) in the Royal Air Force.

Sapper Sydney Moss, R.E. [A.], has been granted a commission in the Manchester Regiment.

#### American Timber for Reconstruction Purposes.\*

A numerous collection of the standard sizes and grades of American softwood timber which will be available after the war for the work of reconstruction is now on view daily at the Institute Galleries in Conduit Street, between the hours of 10 and 5 (Saturdays till 1). The samples have been lent by the American Government, through the instrumentality of the Practice and Science Standing Committees, and a lecture dealing with certain technical aspects of the matter was delivered at the opening of the exhibition on 24th October by Mr. John R. Walker, Trade Commissioner of the American Government.

Mr. Walker said he had gathered together, within

\* This article should be read in connection with Mr. Walker's Paper on "United States Timber Supplies" [JOURNAL for February 1918, p. 81].





Lieut. THOMAS HENRY CHALKLEY, *Student*.  
Machine Gun Corps.  
Killed in action (see last vol., p. 230).



Captain JOHN ALGERNON EDMUND TOONE, *Associate*.  
C.O. Australian Division Pioneers.  
Killed in action (see p. 23).



2nd Lieut. HORACE VICTOR WALTER PITT, *Student*.  
Hampshire Regiment.  
Killed in action (see p. 23).



2nd Lieut. ALFRED TINNISWOOD, *Licentiate*.  
Royal Engineers.  
Killed in action (see p. 23).



Lieut. JOSEPH CHARLES GLADSTONE DAVIES, *Associate*.  
Royal Field Artillery.  
Drowned on service (see last vol., p. 184).



2nd Lieut. TOM WILLIAMSON HOOKEY, *Associate*.  
Durham Light Infantry.  
Killed in action (see last vol., p. 184).



Lieut. WILLIAM VICTOR LAWTON, *Student*.  
Royal Engineers.  
Accidentally killed in France (see last vol., p. 233).



Lieut. J. PHILIP MINOR, *Associate*.  
Durham Light Infantry.  
Killed in action (see last vol., p. 233).

the limitations of war times, this small exhibit for the purpose of showing to the British timber-using public the American woods, and the shapes and grades which would be available for the work of reconstruction after the war in the largest quantities and upon the most favourable basis of cost. Architects of this country were to some extent familiar with the species of the timber exhibited—Southern yellow pine (pitch pine), and its related species; Douglas fir (Oregon pine), Californian redwood (Sequoia), White pine (yellow pine), and Californian sugar pine—but they were entirely unfamiliar with the dimensions and the grades or qualities of the timbers now exhibited in that room. Those shapes and grades, however, were universally employed in construction work in America, which produced and used more timber than any nation in the world. The standard grades and sizes of American timber were unknown in the British market for the reason that the building practice of this country was established years ago in relation to the soft woods of the Baltic. In America the general construction work was done with the hard pines of the south and of the west, and the standard of sizes which they had evolved in connection with these hard pines was different from the standard of sizes prevailing over here. This difference in sizes rested upon a sound scientific basis—namely, that the strength of the harder pines used in America was greatly superior to the strength of the softer northern woods which this country employed, and, generally speaking, the dimensions employed in America for a given purpose were smaller than those employed for the same purpose here.

He wished to urge most strongly upon the British timber-using public that in the reconstruction programme after the war full provision be made for the employment of American soft woods in the standard grades and sizes in which they were commonly manufactured; and in this connection he called attention to the fact that the methods of grading and manufacturing in British Columbia were identically the same as in the Pacific north-west of the United States.

The importance of this question from the broad economic standpoint was that in America they were producing some 15 million standards a year of these construction woods, and all according to the standard of grades and sizes now exhibited. Production upon this enormous scale had made it possible to effect tremendous economies in the manufacture of timber as well as to develop a high degree of efficiency in its manufacturing and seasoning. It was clearly to the interest of this country to take advantage of the economy which resulted from this quantitative production, and not to require the American manufacturer to produce a special product for this market which was not consonant with the physical properties of timber which he was manufacturing, and which involved a wastage of raw material and a very greatly enhanced price to the user. Millions of standards of this material were carried in stock ready for

shipment by American and Canadian mills; and if this country made provision for the use of this material in these standard grades and sizes, the available sources of supply for this market would be practically doubled. To illustrate concretely the general situation which he had described, he would state that the practice in America was to manufacture timber to even inches in width—that is, 4, 6, 8, 10 and 12 inches. Scantlings were manufactured in sizes  $3 \times 2$ ,  $4 \times 2$ ,  $6 \times 2$ ,  $8 \times 2$ ,  $10 \times 2$  and  $12 \times 2$ , and the same widths  $2\frac{1}{2}$  inches by 3 inches in thickness. These sizes, however, were the nominal or green sizes of the material, and in drying these dimensions were reduced. Since the rate of shrinkage in different scantlings was not exactly the same, it was the general practice of the American manufacturer to run scantlings through an equalising machine after they were dry in order to bring them to an exact standard size. The standard finished sizes, therefore, of a  $4 \times 2$  was  $3\frac{1}{2} \times 1\frac{1}{2}$ ; of a  $6 \times 2$ ,  $5\frac{1}{2} \times 1\frac{1}{2}$ ; of an  $8 \times 2$ ,  $7\frac{1}{2} \times 1\frac{1}{2}$ ; of a  $10 \times 2$ ,  $9\frac{1}{2} \times 1\frac{1}{2}$ ; and of a  $12 \times 2$ ,  $11\frac{1}{2} \times 1\frac{1}{2}$ . His proposal was that in view of the greatly superior strength of Southern yellow pine and Douglas fir, the British architect and builder should employ in the place of the usual  $7 \times 2$  Baltic scantling a  $6 \times 2$  American scantling, finished to the scant dimensions above described; in the place of a Baltic  $9 \times 2$  an American  $8 \times 2$ ; in the place of a Baltic  $11 \times 2$  an American  $10 \times 2$ ; in the place of a  $2\frac{1}{2} \times 7$  Baltic an American  $2\frac{1}{2} \times 6$  or an  $8 \times 2$ ; in the place of a  $2\frac{1}{2} \times 9$  Baltic an American  $2\frac{1}{2} \times 8$  or a  $10 \times 2$ , and in the place of a Baltic  $2\frac{1}{2} \times 11$  an American  $2\frac{1}{2} \times 10$  or  $12 \times 2$ . The employment of these smaller dimensions of American timber would gain  $1\frac{1}{2}$  inches in the height of our rooms, and we should still have a margin of superior strength in our floors. The comparative strength values of the woods indicated were based upon tests that had been made in this country and America, and would be verified generally by a comparison of the weight of the American woods with the Baltic woods, for the strength and the weight of wood were usually in direct relation to each other. The Scientific and Industrial Research Department of the British Government, however, were now outlining the plans for a series of tests to determine the accuracy of these claims, and when they were completed we should have an authoritative basis upon which to proceed. Two points in connection with American southern pine timber he desired to call special attention to. It would be observed that a considerable portion of the material now exhibited consisted of sap wood. He had frequently seen in English text-books sap wood described as "immature" wood. This, however, was altogether an inaccurate description. Structurally the wood was not immature, and it had all the strength and vitality of the older heart wood. The only valid objection against sap wood was that the sap of the tree which circulated through it contained an acid which, if not removed through drying or by other means, would produce stain and dry rot if the wood remained in a

moist state and with an absence of ventilation. No stain, however, would be found upon the sap wood exhibited, for the reason that all the wood had been thoroughly dried; in fact, it had been kiln dried, which completely removed the sap and destroyed the tendency towards stain and dry rot. Since a considerable portion of the average southern pine tree consisted of sap wood, a tremendous saving in cost might be effected by employing this wood; when it had been thoroughly dried it would serve every purpose that the heart wood served in the interior construction of a building.

Discussing the question of kiln drying, Mr. Walker said that this was a development of comparatively recent years which, like all new developments, encountered opposition at the outset, and a widespread prejudice still existed against it in this country. This prejudice arose because in its experimental stages kiln drying was not done as well as it might have been; and, secondly, because of that inertia which opposed every innovation. Kiln drying had, however, been perfected, and he could say positively that kiln-dried timber was superior to air-seasoned timber. Kiln drying materially increased the strength of wood as compared with air-seasoned material. It was the quickest and the cheapest way to dry wood, and it practically destroyed the tendency of the wood to absorb moisture; by the same token it limited the extent to which wood contracted and expanded under variations of temperature; it heightened the lustre of wood; and, finally, it lightened its weight. No more convincing proof that it did not make wood brittle or otherwise destroy its utility could be found than that both Britain and America were now kiln-drying the wood which was used in aeroplane construction.

In conclusion, Mr. Walker said that this was the first time that the attempt had been made to study the American timber trade as a whole with a view to seeing if it might be possible to place the whole trade upon a sounder basis. His purpose in coming there was not to attempt to capitalise the fine feeling of friendliness that existed between their countries. He started upon this investigation before America entered into the war, and its foundation rested upon a much broader basis. All the world was interested in the conservation of its natural resources; America was especially interested in the conservation of timber because it possessed the largest timber resources of any country in the world except Russia, if Siberia were included with European Russia. He was present, therefore, to discuss with them in a scientific spirit the question of how they could collaborate to put to its best use the immense timber resources of which America was the steward.

#### Out-of-date Building Restrictions.

Mr. SAMUEL W. WILSON writes:—

"Being away in the provinces on British War Bond work I regret very much not being present at Mr. Walker's lecture on 'American Woods Available for

Reconstruction after the War.' It is quite possible that the lecturer mentioned the very excellent wooden residences made good use of in all parts of the States, and as the principal thing standing in the way of economical construction here, both in wood and other equally usable materials, is the out-of-date system of building restrictions, I shall hope to see some progress made in this very essential branch of building construction, even if only in time for me to read from the other side.

"The future building up of your British trade will take place by the development of the provinces, and for this reason local by-laws want very carefully watching in your nation's interest, or you will be up against the problem here—that a big works anxious and willing to go ahead and get its full share of trade is going to be sat on by some miserable little local by-law which will prevent any housing accommodation for workmen at a price which the firm can afford. The elimination of all fads of this character tending to 'prevent economy' is just one of the most important things that has to be watched in the interest of British trade.

"As an American I wish your people their due share of the extraordinarily busy time which is undoubtedly in front of them if they will tackle it in the proper way. The future development of provincial England is one of the most important and fascinating subjects that one could take up with profit to your country."

In a postscript Mr. Wilson adds:—

"Broadly, what I have in mind over the whole future business in this country is:—

"(1) British manufacturers and merchants aroused as to the abilities which they have and must use.

"(2) The excellent opportunity afforded outside the crowded cities for healthy factories and works.

"(3) Adequate and healthy dwellings for the workers, not handicapped by out-of-date building restrictions.

"(4) Hives of industry all over the country designed by men systematically, hygienically and truly economically.

"Push this for all you are worth. There is a big opportunity for your country to take. Take it."

#### Nottingham and Derby Architectural Society: Housing of the Working Classes.

At the opening meeting of the winter session of the Nottingham and Derby Architectural Society it was decided to send a request to the Housing Committee of the Nottingham City Council asking them to receive a deputation of local architects on the question of housing. The request was acceded to and the deputation, headed by Mr. Harry Gill, President of the Society, was received at the Guildhall, Nottingham, on the 1st inst.

Mr. GILL, addressing the Committee, said: The deputation which I have the honour to introduce is representative of the profession in Nottingham. We realise that one of the most pressing problems awaiting solution is the adequate provision of dwellings for the people. Large and important schemes of reconstruction and ex-



tension will shortly come up for consideration by your Committee, and the future development and improvement of our city will be largely determined by the way in which these schemes are handled from the very beginning. If private enterprise could cope with the demand we should still plead for your aid in obtaining modification of the building by-laws, because it is obvious that little improvement can be looked for so long as such narrow house frontages are allowed to prevail, nor until the whole question of the "lay-out" and construction of streets has been revised. But seeing that public moneys are to be expended on future building schemes, it has been suggested by the Council of the R.I.B.A., acting in concert with the L.G.B., that each Allied Society should approach its own Housing Committee on the subject. We therefore respectfully suggest to you that in order to avoid the perpetuation of unsightly and congested areas, every housing scheme for the new era which we hope is about to dawn should be entrusted only to men who by scientific and artistic training and experience are qualified to carry out the work. We have no desire to pose as philanthropists, but simply as architects and citizens who are genuinely concerned for the development of our city on lines conducive to health and beauty. We have confidence in coming before you in this way because only six months ago your Chairman was called upon to assist the assessors in a competition for plans for houses of a new type, in which many of our members took part. I think he will be able to tell you something about the possibility of building small houses convenient in plan, simple in elevation, economical in cost, and yet very pleasing in architectural appearance and grouping. We very much regret that it was not possible for us to arrange for a public exhibition of these designs in Nottingham, but I am authorised to state that a book will shortly be issued by the Royal Institute of British Architects wherein the premiated designs from all the centres in England will be illustrated. This book will have the imprimatur of the Local Government Board. We are fortunate in this area in that nine-tenths of the necessary building material is of local production. A possible shortage of timber will be the most serious obstacle we shall have to overcome, so that it ought to be possible to combine sound building principles with local materials and a simple treatment based on local traditions. As a Society we have not been idle during the enforced period of slackness in the building trade. We have met to discuss the question of housing in its principles and in all its details and we shall be pleased if our services can be utilised either in the promotion of competitions or in any way that may appeal to you. Mr. A. N. Bromley, with great generosity and public spirit, has formulated a very helpful scheme, and I will now ask him to lay it before you.

Mr. A. N. BROMLEY [F.] then unfolded a scheme for offering a premium of £50 for competition among local architects for the best design of a block of four houses, each house to contain parlour, kitchen and scullery and three bedrooms.

In the debate which followed it was stated that the Housing Committee were concerned principally to build houses for the poorest classes first, and it was suggested that they would ask for plans in competition from all and sundry. Mr. Bromley explained that the Nottingham and Derby Society comprised all the *bona fide* architects in this area, and expressed his willingness to double his offered premium and ask for designs for three classes of houses to suit three classes of tenants.

It has been since arranged to hold the competition,

which is to be limited to members of the Nottingham Society and carried out on lines framed by Mr. Bromley.

With regard to the suggested alteration of the by-laws, the deputation was asked to frame definite proposals and to discuss them with the City Engineer and the Medical Officer, and to report to the Housing Committee.

#### Building and Building Materials after the War.

The following is a summary of the evidence given at Edinburgh to the Chairman of the Building Materials Supply Committee under the Ministry of Reconstruction, by Mr. William Kelly (Aberdeen), Mr. T. F. Maclellan [A.] (Edinburgh), and Mr. J. M. Dick Peddie (Edinburgh), members of the Committee appointed by the Institute of Scottish Architects:

#### TERMS OF THE REFERENCE.

(a) In the event of the supply of material or labour being insufficient to fulfil the total building demand, to consider the principles and method by which the priority of various claims should be settled; and to report what steps are necessary to ensure that the manufacture of the materials, so far as they are at present inadequate, shall be extended in time to secure sufficient quantities for use when required on the cessation of hostilities, and to recommend what steps should be taken during the War to facilitate a prompt commencement of building work at that time.

(b) Generally to consider and report upon any conditions affecting the building trades which tend to cause unduly high prices, and to make recommendations in regard to any measure of control which it may be desirable to exercise over the purchase, production, transport, or distribution of material.

#### EVIDENCE.

Paragraph (a). We think there can be little doubt that the supply of materials, and possibly of labour, during the "transition period" will fall short of the requirements. In these circumstances we are of opinion that in the national interest priority will have to be accorded for a time to constructional work and building operations of certain kinds. Among these are shipbuilding, the extension or erection of factories, necessary to enable the country to become self-supporting or, at least, less dependent on foreign supplies, and the building of the large number of houses required for the housing of the working classes and those engaged in production. We are further of opinion that preference may be necessary for a time for the extension or erection of schools and other educational institutions, and for public buildings essential for the general welfare of the community.

Priority having been extended for the purposes generally indicated above, we are of opinion that all further claims should be dealt with alike, but we venture to suggest that claims for expenditure on War Memorials (even to those not of direct utility) should receive special consideration.

To enable claims for priority to be dealt with it is obvious that Government control is essential, but we urge respectfully and strongly: (1) that such control should come to an end at the earliest possible moment, and (2) that the control should be decentralised, and that for Scotland there should be a department armed with wide powers and responsibility, subject only to the guidance of the Central Authority.

As regards the steps necessary to provide for increased production of the necessary building materials, we would suggest that, as soon as it is possible to release men from military service, those who were formerly engaged in the production of building materials should be returned to civil life, and that it is even of greater importance that those who were employers or were engaged in the control

of those engaged in production should be released in time to organize the resumption of production.

As a great deal of the wood required for building purposes must continue to be imported, some proportion of the shipping available after the War should be set aside for wood-carrying.

We desire to point out that if building is to be resumed immediately after the termination of hostilities, the necessary plans and other arrangements for building must be in readiness beforehand. To that end architects, draughtsmen and surveyors should be among the first to be returned to civil life when military requirements permit.

*Paragraph (b).* We have difficulty in suggesting any method of control which could effect a reduction in the cost of building materials, and believe that increased production will automatically and alone tend to reduce unduly high prices. On the other hand, we think that considerable reduction of prices would follow on better methods of distribution were inland carriage improved and rates reduced.

In our opinion the present excessively high cost of building is due not only to the high prices of materials, but to the unduly high rates of wages. We recognise that the increase in the cost of living, and the smaller purchasing power of money together, warranted large advances on pre-war rates; but the standard has risen out of proportion to these causes. This we believe to be due, in great measure, to the conditions under which necessary war-work has been carried out under Government control; and that when work comes to be done under natural conditions, and without Government control, the rates of wages will return to their true economic level.

We desire to repeat that we believe it to be in the interests of the country that Government control of materials and labour should cease at the earliest moment after national interests no longer demand such support; and that the cost of building will continue to be artificially higher than it should be, as long as there is interference with the free distribution of building materials and with the conditions of employment.

## CORRESPONDENCE.

To the Editor, JOURNAL R.I.B.A.,—

Soissons Cathedral.

SIR,—In reference to the admirable paper in the JOURNAL on this subject, surely the cathedral must be restored, and equally surely this could be done so as to indicate to posterity where the restoration had been effected. A very slight difference in the colour of the stone, explained by a tablet built into the wall, would fully suffice. We all know how at Durham, for instance, the tint due to fire six hundred years ago is still plainly visible, and a similar lasting effect could be obtained in this case by suitable selection of the material.

Cob Walls.

Referring to the article headed "Cob Houses" in the October issue of the JOURNAL, there is a material used in Norfolk, called "clay-lump," which is very similar to "cob," but is made in blocks about 8 inches thick, and of a standard size, about 2 feet by 1 foot. It is still obtainable, and can be used for internal partitions as well as external walls. It has one advantage over "cob," in that a wall built of it can be taken down, and the materials can be re-erected in another position, just like slab plaster or concrete blocks.

R. LANGTON COLE [F.].

## MINUTES.

At the First General Meeting of the Session 1918-19, held Monday, 4th November 1918, at 5 p.m.—Present: Mr. Henry T. Hare, President, in the Chair; 37 Fellows, 18 Associates, 6 Licentiates, and several visitors—the Minutes of the Meeting held 24th June were taken as read and signed as correct.

The Hon. Secretary announced that since the last meeting intimation had been received that the following members had been killed in action:—Lieut. Charles Taylor Whiteley, Royal Warwickshire Regiment, *Associate*; Lieut. William Victor Lawton, Royal Engineers, *Student*; John Douglas Dickson Watt, *Associate*; Lieut. James Sydney Cable, Royal Garrison Artillery, *Associate*; Lieut. Charles Herbert Hartmann, Royal West Kent Regiment, *Associate*; Lieut. Thomas Henry Chalkley, Machine Gun Corps, *Student*; Wilfred Stuart Gorrington, *Associate*; Private Gilbert John Frank Hookway, Cambridgeshire Regiment, *Licentiate*; Lieut. Alfred Tinniswood, Royal Engineers, *Licentiate*; Capt. John Algernon Edmund Toone, Australian Division Pioneers, *Associate*; Major James Mitchell White Halley, Royal Engineer, *Fellow*; 2nd Lieut. Horace V. W. Pite, Hampshire Regiment, *Student*.

On the motion of the Hon. Secretary it was Resolved that the Institute's deepest regret for the loss of these members be entered on the Minutes, and that a message expressing members' sincerest sympathy and condolence be forwarded to their nearest relatives.

A vote of sympathy and condolence was also passed to Mr. B. J. Capell [A.] and Mr. C. H. Samson [F.], each of whom had recently lost a son in the War.

The decease was also announced of the following members:—William Albert Paxton Clarkson, *Associate* 1890; Charles Manning, *Licentiate* 1911; Joseph John Knewstubb, *Associate* 1912; Walter John Raymond Barker, *Licentiate* 1911; Edwin Bush, *Licentiate* 1911; Thomas Edward Murray, *Licentiate* 1911; Robert Williams, *Associate* 1887, *Fellow* 1896; Henry John Wadling, *Associate* 1865, *Fellow* 1888.

Formal announcement was also made of the death of Cecil Claude Brewer, *Pugin Student*, *Godwin Bursar*, and *Fellow*, and a vote expressive of members' sincerest condolence was passed to his widow.

The following candidates, being found eligible and qualified according to the Charter and By-laws, were nominated for election\* :—

AS ASSOCIATES (64).

[Except where stated that the candidates have passed the Final or Special Examination, the whole of the candidates are serving with His Majesty's Forces and, being duly qualified, have availed themselves of the temporary concessions granted to students so serving. See Special Regulations, JOURNAL for March 1918.]

Adams: William Naseby [S., 1908], Liverpool.

Bagenal: Hope [S., 1913].

Barrowcliff: Arnold Montague [S., 1913], Loughborough.

Blyth: Charles Kydd [S., 1912].

Bower: Albert Egerton Lance [S., 1905], Liverpool.

Bradshaw: Harold Chalton [S., 1913], Liverpool.

Broad: Malcolm Charles [S., 1912].

Chaikin: Benjamin [S., 1907].

Corkill: Laurence Lavery [S., 1908], Isle of Man.

Daniel: Thomas Llewelyn [S., 1915], Essex.

Dartnall: James Ambrose [S., 1914].

Davis: Sydney William [Special War Exam.].

Dicksee: Harold John Hugh [S., 1913].

Duckworth: Alfred [S., 1913], Fleetwood.

Evans: Thomas Cwmanne [S., 1912].

Farey: Cyril Arthur [S., 1909].

Filkins: Edwin William [S., 1913].

Fincham: Edward [S., 1910], Colchester.

Garrett: Sidney Colston [S., 1911], Hove.

Gask: John Harold [S., 1904], Bournemouth.

Grant: James Lindsay [Special Examination 1918], Northenden, Cheshire.

Gray: Andrew [S., 1915], Hertford.  
 Harrison: Harry St. John [S., 1914].  
 Hays: John Wilson [S., 1905], Wingate, Co. Durham.  
 Healey: Francis Hurst [S., 1905], Bradford.  
 Hendry: Morrison [S., 1913], Aberdeen.  
 Holden: William [S., 1910], Grange-over-Sands, Lancs.  
 Horsburgh: Arthur Lindsay [S., 1912], Farnborough.  
 Howcroft: Gilbert Burdett [S., 1913], Oldham.  
 Hudson: Philip Sidney [S., 1917].  
 Hutton: Arthur James Scott [S., 1918], Edinburgh.  
 James: Charles Holloway [S., 1912].  
 Key: William Donald [S., 1914].  
 Knight: Shirley [S., 1913].  
 Lavender: Ernest Clifford [S., 1913], Walsall.  
 Lidbetter: Hubert [S., 1905], Cockermouth.  
 Lister: Harold Alfred [S., 1912], Shrewsbury.  
 Lone: Reginald Wilcox [S., 1911].  
 Macgregor: John Eric Miers [S., 1918].  
 McLachlan: Charles [S., 1910, *Final Exam.* 1918].  
 McLean: George [S., 1911], Portmadoc, N. Wales.  
 Maddox: Frank Morrall [*Special Examination* 1918], Stoke-on-Trent.  
 Mullins: Geoffrey Thomas [S., 1914].  
 Napier: James [S., 1915], Port of Menteith.  
 Parkin: William Gordon [S., 1913], Johannesburg.  
 Parnacott: Horace Walter [S., 1906].  
 Philp: Arthur Thomas [S., 1915], Boscastle.  
 Platts: Percy Oates [S., 1908], Wakefield.  
 Prestwich: Ernest, M.A. [S., 1912], Leigh, Lancs.  
 Ratcliff: Fred [S., 1910], Bamford, Derbyshire.  
 Roberts: Evan Wendell [S., 1914, *Final Examination* 1918], Swansea.  
 Rowntree: Colin [S., 1911].  
 Samuels: Edw. Percy Proctor [S., 1907], Llanfairfechan.  
 Saxon: Frederick Charles [S., 1913], Rochdale.  
 Shoosmith: Arthur Gordon [S., 1908], Bournemouth.  
 Soissons: Louis Emmanuel Jean Guy de Savoie Carignan de [S., 1913].  
 Stevenson: Raymond Croisdale [S., 1918, *Special War Exam.*].  
 Thomson: John Stewart [S., 1914].  
 Tomlinson: Lawrence Digby [S., 1913], Essex.  
 Tubbs: Grahame Burnell [S., 1917, *Final Exam.* 1918].  
 Vernon: George [*Special*].  
 Wallace: Robert Stuart [S., 1913].  
 Whitehead: Percy [S., 1912], Oldham.  
 Willson: Ernest [S., 1911, *Final Exam.* 1914], Blackburn.

The President having delivered the OPENING ADDRESS OF THE SESSION, a Vote of Thanks was passed to him by acclamation, on the motion of Mr. John W. Simpson, *Past Vice-President*, seconded by Mr. S. Perkins Pick, *Past Vice-President*.

The proceedings closed at 5.50 p.m.

## NOTICES.

### Election of Members, 6th January 1919.

#### As Hon. Fellow.

LEVERHULME, LORD, THE RIGHT HON. WILLIAM HESKETH LEVER, *Hon. Associate*. Proposed by the Council.

Applications for election have been received from the following Students serving with H.M. Forces who, being duly qualified, have availed themselves of the special concessions announced in the JOURNAL for March 1918. Notice of any objection or other communication respecting the candidates must be sent to the Secretary for submission to the Council prior to Monday, 2nd December.

#### As Associates (8).

BROWN: WALTER JAMES [S., 1912], Marlborough House, near Taunton.

Proposers: C. E. Bateman, J. Coulson Nicol, Arthur Harrison.

CHRISTIE: REGINALD RAYNER [S., 1905], 53 Chester Road, Northwood, Middlesex.

Proposers: Raymond Unwin, Henry A. Saul, S. B. Russell.

CLEMES: FRANK [S., 1911], 6 Westcroft Square, Ravenscroft Park, W.6.

Proposers: Richard C. James, George H. Oatley, Sir Frank W. Wills.

FORTESCUE: GEORGE ALAN [S., 1918], 1 Ringford House, West Hill, Wandsworth, S.W.

Proposers: P. Morley Horder, John Hudson, Arthur Keen.

KEYLE: JOSEPH RASHBROOKE [S., 1914], 34 Woodstock Road, Moseley, Birmingham.

Proposed by the Council.

MACMILLAN: ALEC LOWE [S., 1909], 85 Cambridge Road, Southport.

Proposers: Hastwell Grayson, John B. Gass, Arthur J. Hope.

RYLATT: ARTHUR [S., 1911], West Holme, Cottingham Road, Hull.

Proposers: George H. Widdows and the Council.

TAYLOR: RONALD VICTOR [S., 1911], 12a Derby Road, Southport, Lancs.

Proposed by John Stuart, John Woolfall, Richard Hall.

### Business Meeting, 2nd December, 1918, at 5 p.m.

THE THIRD GENERAL MEETING (BUSINESS) will be held Monday, 2nd December, 1918, at 5 p.m., for the following purposes:—

To proceed with the election of candidates for membership [*the names and addresses of the candidates and the names of the proposers were published in the JOURNAL for October, and the candidates' names are again printed in the present issue (see MINUTES, pp. 23, 24).*]

The PRESIDENT to move the adoption of a proposal put forward by the Council to promote a Bill in Parliament to amend the Law relating to the Acquisition of Light. The draft Bill is as follows:—

### AN ACT TO AMEND THE LAW RELATING TO THE ACQUISITION OF LIGHT.

1.—(1) After the day of , 19 , a right to the access and use of light to or for any building shall not be acquired by the mere enjoyment thereof for any period of time, and no presumption of a grant of a right to the access and use of light shall arise or be made by reason only of the enjoyment of such access and use for any period.

(2) This section shall not apply to any right to the access and use of light which shall have become absolute and indefeasible on or before the day of , 19 .

2. Section 3 of the Act 2 & 3 William IV. c. 71 is hereby repealed as from the day of , 19 , but such repeal shall not revive any custom referred to in that section or bring the right to the access and use of light to or for any building within the provisions of Section 1 of the said Act.

3. This Act shall not apply to Scotland.

4. This Act may be cited as The Acquisition of Light (Restriction) Act, 1918.

### Sessional Paper, 16th December, at 5 p.m.

### HOUSING: THE ARCHITECT'S CONTRIBUTION.

By RAYMOND UNWIN [F.].



*By permission of Winget, Ltd.*

## A CHEPSTOW HOUSING SCHEME.

By WILLIAM DUNN [F.] and W. CURTIS GREEN [F.].

Read before the Royal Institute of British Architects, Monday, 18th November, 1918.

### INTRODUCTORY.

THE principles of what is called Town Planning, of Garden City and Housing schemes, other than those in crowded cities, have of late years been the subject of much study, and have been fully expounded by many speakers and fluent writers. A much less ambitious task will be attempted in this Paper: all that we shall set out to do will be to describe a particular housing scheme, conceived and begun in war time—partly carried through so far—the special difficulties, the methods and materials adopted, with some account of the reasons for their adoption. The task affords no scope for fine writing or eloquent periods, and, fortunately for us, calls for neither. But the simple record of facts, of what has been and is being done, is generally of value in that those who come after us may build on our successes and take warning by our failures, whichever they may be.

Chepstow is in the Wye valley—a hilly district famous for the beauty of its scenery—and is about two miles from the junction of the Wye with the Severn. It is a very ancient town, fortunate in the possession of the ruins of one of the finest of our mediæval castles. The River Wye encloses it on the north and east sides, and on the south and west it was defended by the Port Wall—the old town wall, which stands in almost its original state to-day, save for the loss of its battlements and stairs. Only a small part of the town lies outside the walls. It is served by the Great Western Railway, which here crosses the river by an iron bridge built by Brunel in the early days of railways—a clever piece of engineering for its time, but a sad disfigurement of the landscape.

Chepstow was a typical old-world market town and residential place, with but one industrial concern in it—the engineering and shipbuilding works of Messrs. Edward Finch & Co., near the bridge. The Standard Shipbuilding Company acquired the Town Meads—flat land lying between the Great Western Railway and the river—and planned the lay-out of a shipbuilding yard on a large scale. For



the accommodation of their workmen, and of the men employed by Messrs. Finch—an allied company—houses were required. Land was bought, and the work of laying out the streets and designing the houses was put in the hands of my firm.

The change from the old-world Chepstow to the new, though welcomed by the majority, perhaps, of the inhabitants, was not made without regret on the part of some of them. We read that in the time of Henry VII. and his successor many manufacturers—early capitalists—feeling the restrictions of the trade guilds in the large towns of that day, started industrial villages beyond the influence of the guilds, and that this led to the temporary decay of the towns. Attempts were made to check this movement by law, but unsuccessfully. To-day we see a movement not unlike it, out of the big towns. Our manufacturers, feeling the burden of local taxation and restrictions, and also recognising that better housing conditions for the workpeople are essential, are moving their works to the countryside. Instead of trying to stop the movement, we put our effort into guiding it aright; to secure that the bad housing conditions which have grown up in the cities will not be repeated in the new schemes.

#### THE SITE.

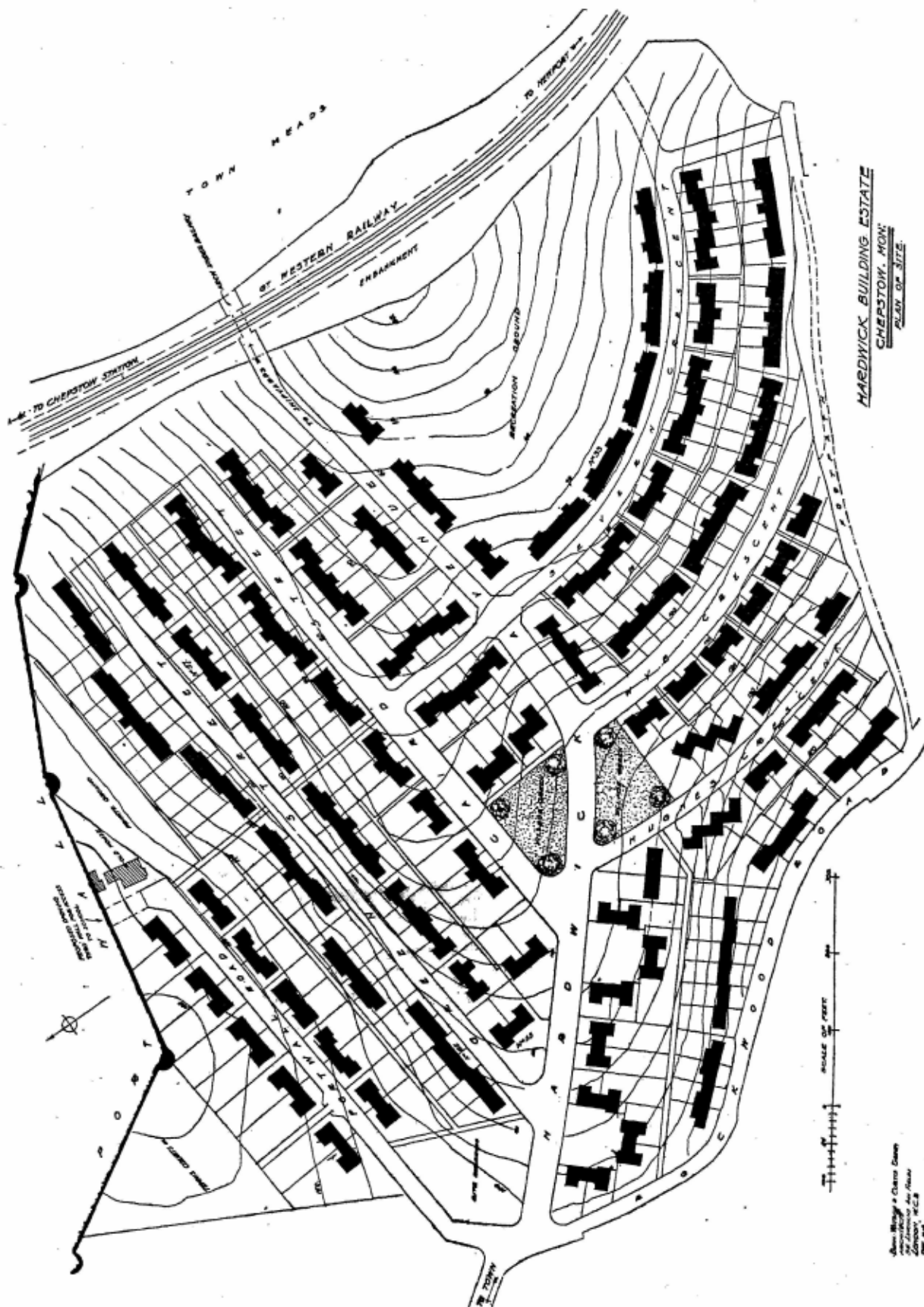
The site of these houses is about 28 acres in extent, and lies just outside the Port wall. It formed a little valley, bounded on the northern side by the Port Wall on the crest of the hill, and on the southern side by the wooded heights of Hardwick Court. At the top end of the valley there are the houses outside the town wall; at the outlet of the valley lies the river, but severed from the site by the railway, which crosses the valley on a high embankment, and by the Town Meads, now the shipbuilding yard. Down the centre of this valley there was an old road extending halfway down, and beyond that a footpath leading to an archway under the railway.

#### SURVEY.

In all undertakings of this kind the first thing is to get an accurate survey of the site, with sufficient levels for contouring, to enable one to prepare a preliminary lay-out of the roads. The larger scale Ordnance Survey,  $\frac{1}{1250}$ , is not large enough, nor sufficiently accurate, nor has it sufficient levels for the purpose. This survey, upon which all the plans were based, was made and levels taken in less than a week by three men, with the help of a couple of workmen occasionally to cut and drive pegs, and clear openings through the hedges, &c. It was a chain survey, or rather a steel tape survey. Had we known before going to Chepstow that the site was so very hilly we should have saved time by using the theodolite, though we should have got no greater accuracy. The time spent on the survey was also used in studying the possible lay-out of the streets in relation to aspect and prospect as well as level.

The level at the arch under the railway was 54.57 ft. above Ordnance datum, and at the top end of the land 142.9, so that we had a fall of about 88 ft. in a length of 1,300 feet, measured along the line of old road and footpath down the centre of the land. On the Port Wall side the highest point was 160.44, and on the Hardwick Court side 164.8 feet above O.D., the ground falling very sharply towards the centre. It may be said here that all levels were reduced to Ordnance datum. A bench mark was found at the head of the site to which our levels could be referred.

On the plan of the site you will see the contour lines, and will agree that it presented very special difficulties. A speculating builder would select as level a site as possible to save expense in under-building; but extra cost in that way was repaid in some measure by the natural beauty of the place and by the outlook, which all round is very extensive over well wooded and hilly country, with the Wye and Severn rivers to the south-east, as well as by the advantage of having the houses so close to the town and works. If you think for a moment of the saving of time and effort of so many men daily in traversing even a quarter of a mile more each way, you will understand that proximity to the works would justify some more expense on building.



**HARDWICK BUILDING ESTATE**  
**CHESTER, MON.**  
**PLAN OF SITE**

John H. B. & Co. Ltd.  
 Architects  
 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

There was a new 9-inch sewer with manholes, &c., which followed the line of the old road and footpath.

#### LAY-OUT OF STREETS.

It was evident that here we could not lay out the streets on any grandiose axial plan. In towns such as Chepstow on hilly sites we find much steeper road gradients than in towns on the plains, but, even so, there was great difficulty in getting lines of streets with practicable gradients, and the more we worked on the scheme the more we realised this. These gradients should be as low as possible, not only for the convenience of foot and wheeled traffic, which in this instance with no through roads is not great, but for the keeping down of cost in maintenance of the road surface and of the sewers, which suffer from scour if laid at steep falls.

The entrance to the estate from the town is at the top, where the old road began. The railway arch at the bottom, where the footpath ended, was to be the entrance to the works of the Standard Shipbuilding Co., in which the inhabitants, or at least the male portion of them, were to be employed. If the existing 9-inch sewer were sufficient for the work—and this was a new sewer—it seemed reasonable to form the central avenue along its line. Calculations were made by the usual formula, allowing for the rainfall, the slope of the land, the absorption of the ground, the water supply, the number of inhabitants, the size and slope of the pipe, &c., and it was found to be sufficient. The central road, called Hardwick Avenue, was then tentatively fixed. This avenue is 86 feet wide.

The side streets have to be at such distances apart as will give space for two houses and their gardens—about 155 to 190 feet, say. The general direction of the side streets follows the natural contours of the land, as you will see from the contour lines on the plan. It was only by following these contours, more or less, that reasonable gradients could be obtained. Another reason for this principle of lay-out was this: blocks of cottages have long frontages and narrow depths. As the frontage is generally parallel to the street, which is the lower gradient, there is less difficulty in keeping the floor and roof levels of the cottages in a block alike. The falls from back to front are steeper, of course, but the depth of the building is comparatively small. The streets could not be made to follow exactly the contours of the land; the final lines were arrived at by a process of trial and error. The streets were set out by the theodolite, the straight streets pegged out at intervals of 100 feet, the circular roads by pegs at 50 feet intervals. In setting out these circular roads, Rankine's rule for setting out by one theodolite and the chain was used, as it entails only one position of the instrument.

#### WIDTH OF STREETS.

The width of the streets are 24 feet and 36 feet with 14-foot and 24-foot carriageways respectively between the curbs. The wider the street the greater the expense in cutting and filling on so steep a site. There is very little traffic here, and it would seem that in practice these widths are sufficient. The roads are of ordinary construction of 8 inches of local stone pitching, covered with 6 inches of metalling or ballast, rolled in with local gravel and sand. A 3-inch layer of ashes was put under the pitching generally. The footpaths are of 2-inch granolithic slabs, laid on a bed of ashes, and the kerbs are of 12-inch by 6-inch Blue Pennant or Saurian stone (laid flat). The gutters were laid in tar-mac.

Many of the pavements in Chepstow are of granolithic paving laid *in situ*; but that, though slightly cheaper, was ruled out, as much of this paving is on made ground, which settles slightly in time, and would have produced cracks. There is also an advantage in the slabs laid on ashes, in that repairs or alterations to gas and water supplies to the cottages are more easily made.

#### OPEN SPACES.

Three open spaces were proposed: one in the centre of the site, to be planted with trees round it, and to be provided with benches, as a village green; one at the top end where the site is fairly level,

intended for bowling greens or tennis courts; and one—the largest—at the lower end, for general recreation ground. Part of this is below the level of the railway, and is being filled up to that level.

On the Hardwick Court side of the estate, there is a steep hillside, well wooded, with fine views. It is too steep to build on, and we had hoped at one time to secure it, or part of it, for another public space. Laid out with rough footpaths there would be walks such as we see in many foreign towns, which would have all the charm given by being on a height, looking over hill and dale and river. It would make an admirable natural playground for children, and open-air school, where local history could be taught in full view of the ancient town walls, and botany in the presence of Nature. But this must be left to some lover of Chepstow and of his fellow-men to realise.

#### NUMBER OF HOUSES PER ACRE.

The scheme proposes about ten houses to the acre. The garden ground to each cottage varies in extent, partly by design, as the tenants have not all the same time, or the same wish, to cultivate the land. The soil is very good here, and the tenants already in occupation have made excellent use of it in growing vegetables.

#### BACK LANES.

For the supply of coals, the removal of waste and to give access to the back doors, by which the working man enters after the day's work, back lanes have been formed. It will be seen from the plan that these back lanes, except in a few cases where through-communication was specially required, have dead ends. They were so made, as it was believed that lanes with through-ways were open to objection, in that they facilitated thieving and other improper use of the lanes. The lanes which are at right-angles to the streets have steep gradients. To prevent the surface being washed away in times of heavy rain, these are formed in wide steps of about 4-inch rise and 2 to 3 feet or more width. All these back lanes are laid with tar-mac paving.

#### SEWERAGE SCHEME.

In the design of this there was a difficulty, not in getting sufficient falls but in keeping the falls within reasonable limits, not only because of the scour reducing the life of the pipes, but because we have here no separate rainwater system and a too rapid discharge might be objectionable in times of exceptionally heavy rain storms. In the central road—Hardwick Avenue—the old 9-inch pipe sewer remains. In the other streets 6-inch sewers are used, except on one side where a 9-inch pipe sewer was laid for special reasons.

These pipes are laid on a bed of concrete, and the invert of the pipe is in general 4 feet 6 inches to 5 feet below the surface. If nearer the surface, the pipes have to be covered by concrete to prevent breakage; if deeper, expense is incurred in rock excavation, as a loose rock is found a few feet down. Manholes are placed about 200 to 300 feet apart. They are ordinary brick manholes with step-irons, and have Adamsez conical manhole covers, which have no sharp junction between the iron and the road material. Road gulleys were put at rather less distances apart. There are no ventilating shafts to the sewers, and it is not likely that they will be put.

The sewers were laid before all the houses were designed. Whenever the exact position of a required connection for a block of cottages was known, the branch drain was put in at the same time as the sewer. Where these positions are not known, it seemed on the whole better to break up the road afterwards than to put in eyes in the pipes which interfere with the self-cleansing action of the sewer, and may never be used. Generally, there are two connections to the sewer for each block of cottages, one at either end.

#### GAS AND WATER SUPPLIES.

It was found that electric lighting, which has many advantages, was too expensive, and the houses have gas lighting from the Chepstow Gas Company's mains. The company lay the mains in the



streets at their own charges, as the streets are under construction, and the owners lay the services in the houses. Similarly, the Chepstow Water Company laid their mains in the roads, and the owners paid for the house services. There is a high pressure on the pipes, and when the water waste preventers were selected, a specimen was sent to Chepstow to be tested under the actual conditions before the order was given. The Local Authority fixed the positions of the street lamps and fire hydrants.

#### THE HOUSES GENERALLY.

In a scheme such as this, designed for various classes of workmen, labourers, skilled tradesmen, foremen and clerical staff in a shipyard, there must be some variety in the extent and quality of the accommodation.

The smallest house has a living room or kitchen of about 168 square feet area, three bedrooms, a scullery with bath, a fuel store, w.c. and larder. The largest so far designed has kitchen, parlour, dining room, four bedrooms, bath with hot and cold water, scullery and offices. It would be economical in many ways—in the architect's labour, for instance—to use a few types and repeat them all over, but the result would probably be disappointing from the sameness of the designs. The British working man is by no means indifferent to the value of a house of some individuality and a pleasing appearance, though he often says that all he cares for is good accommodation. He is not enamoured of the streets of houses in which the only means of identifying his dwelling-place is by the number on the door. In our case, the discussion of pros and cons for type-plans was useless, as the hilly site made it impossible to do much in the way of standard plans. Each block of cottages had to be planned to suit very uneven sites, and there was also the aspect and prospect to consider. All around are splendid prospects of the neighbouring hills, and as each row of houses rises, terrace-fashion, one above the other, there was strong reason for considering this question of prospect.

As to aspect, sun is so important to us in our island climate that we made great efforts to get sunny rooms. No architect would willingly put houses of the same plan on both sides of a street running east and west.

To carry out these ideas entailed much variation in plan and a great deal of thought and work, which we hope has its reward in better conditions for the occupants. In some parts of the Midlands it is usual to have a small kitchen and scullery combined, in which the cooking range, the copper and sink are placed, so as to leave the living room for use as a parlour. This plan is not so popular in the south, and was not adopted here. The living rooms are made of a good size, and the range is placed in it, so that it serves as a dining room and a kitchen, the scullery being reserved for washing and a gas cooker. The objection that the range makes the room uncomfortably hot in summer does not apply when a gas cooker can be installed, as in this case, and the kitchen fire in the room used as a sitting and dining-room saves coal in the winter.

All the accommodation required is provided within the walls of the house ; there are no outhouses.

#### OUTLINES OF COTTAGE BLOCKS.

It is sometimes recommended that the outlines of the cottage should be plain rectangles without breaks. These square blocks are possibly cheaper, but difficult to make attractive. It is not so long ago that a meeting of Trade Unionists passed a resolution objecting to what they called "the brick-box with slate lid" type of house, and as most people will share the objection, we might be justified in departing from a rigid economy for the sake of appearance. Fortunately or unfortunately, we had little option here, as the sites compelled us to adopt the irregular form in many cases.

#### SOME POINTS IN THE PLANS.

The front doors open into a small porch ; in the larger houses into a staircase hall. From this the doors of the principal rooms open out, and the stairs ascend.

At the backs of the houses there is an open porch in which we place the doors to the scullery, the w.c., and the fuel store. This arrangement saved us from the appearance of three doors in the

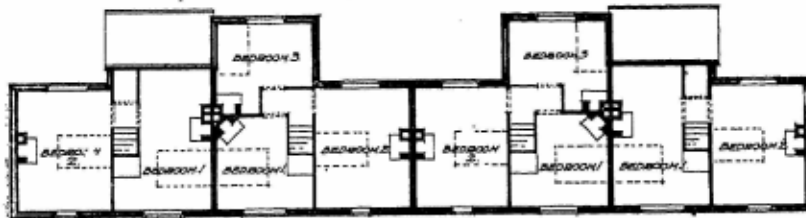
FOUR-COTTAGE BLOCK. N°33



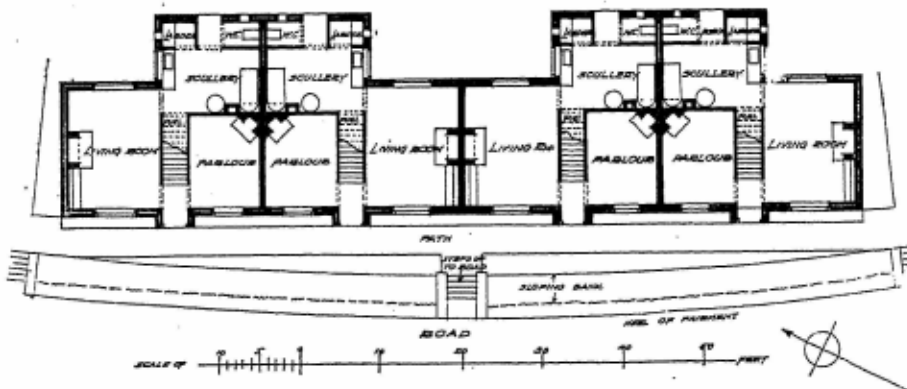
BACK ELEVATION



FRONT ELEVATION



FIRST FLOOR PLAN



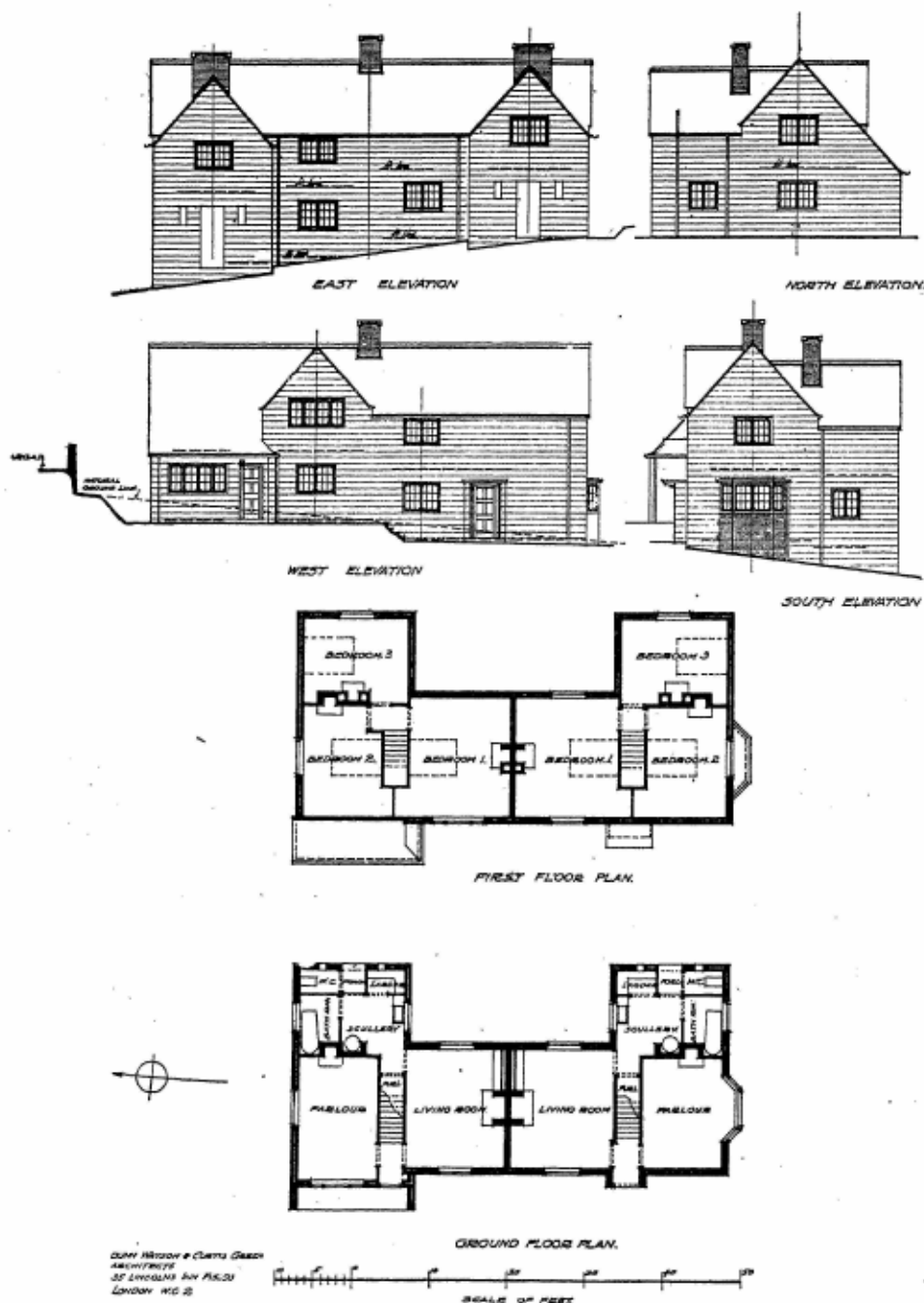
EDWIN HAYDEN & CLAYTON GIBBY  
ARCHITECTS  
35 LINCOLN INN FIELD  
LONDON W.C.2

back elevation of a small house, and from a great difficulty in making a satisfactory back elevation. It shields the w.c. door; it forms a convenient place for boot-brushing under cover; and it enables the scullery door to be left open on washing day or any day, even in bad weather.

In a few cases in the smaller houses the stair opens from the living room instead of out of the

front porch. Some working-class tenants prefer this plan, as they say that the heat of the kitchen fire helps to air and warm the upstairs bedrooms, where fires are rarely lighted. Where many tastes

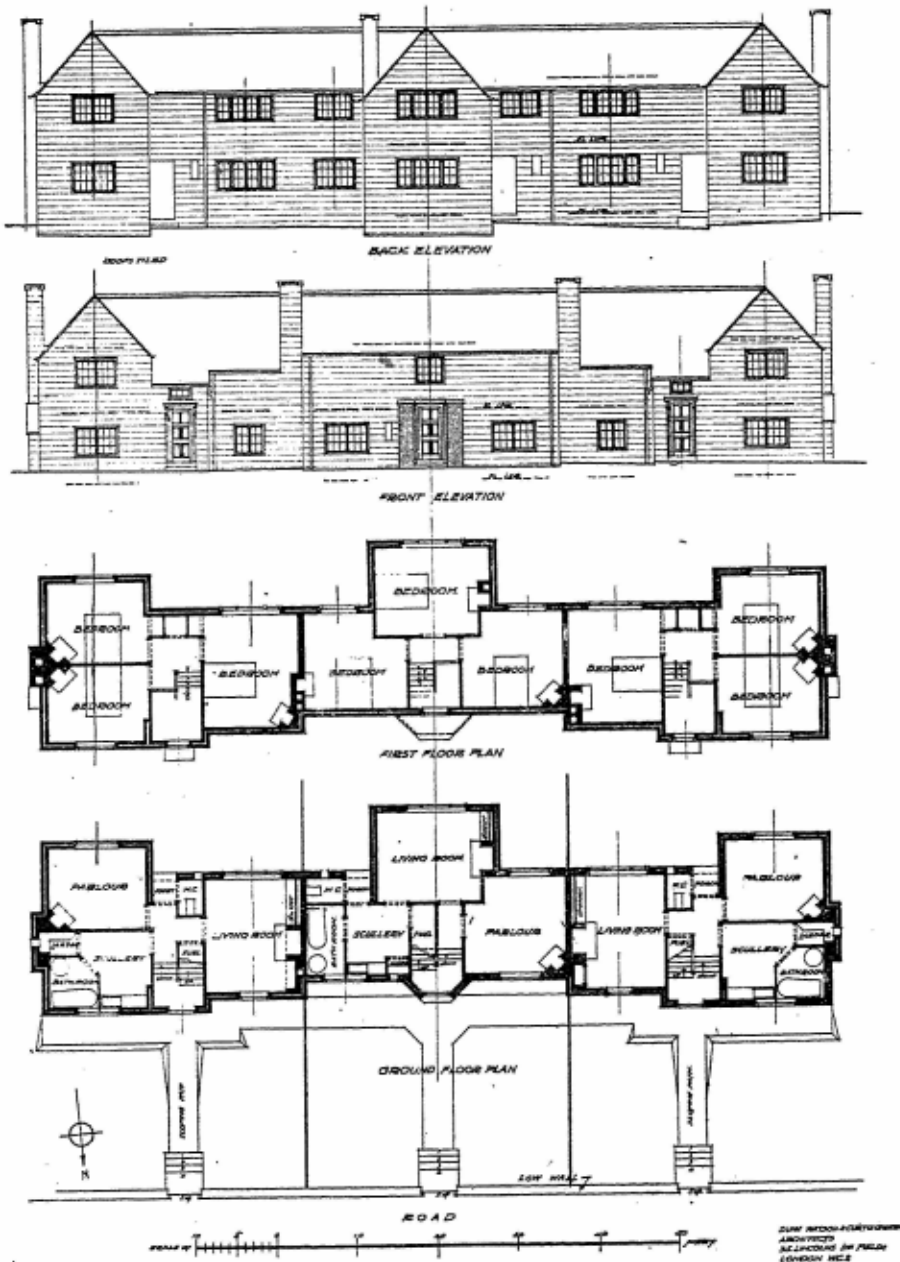
TWO-COTTAGE BLOCK No. 55



have to be consulted, it is desirable to have variety in plan. Where conditions were favourable windows were put in two walls of rooms. A room with windows in two walls is always more cheerful, and is better lighted with smaller window area than by a window in one wall.

Every house has a bath; in one or two cases the bath is in the scullery, but in nearly all the houses it is in a separate room. The hot water is taken by hand from the copper close by. The first cost, and the cost of maintenance of the plumber's work in a hot-water service in workmen's

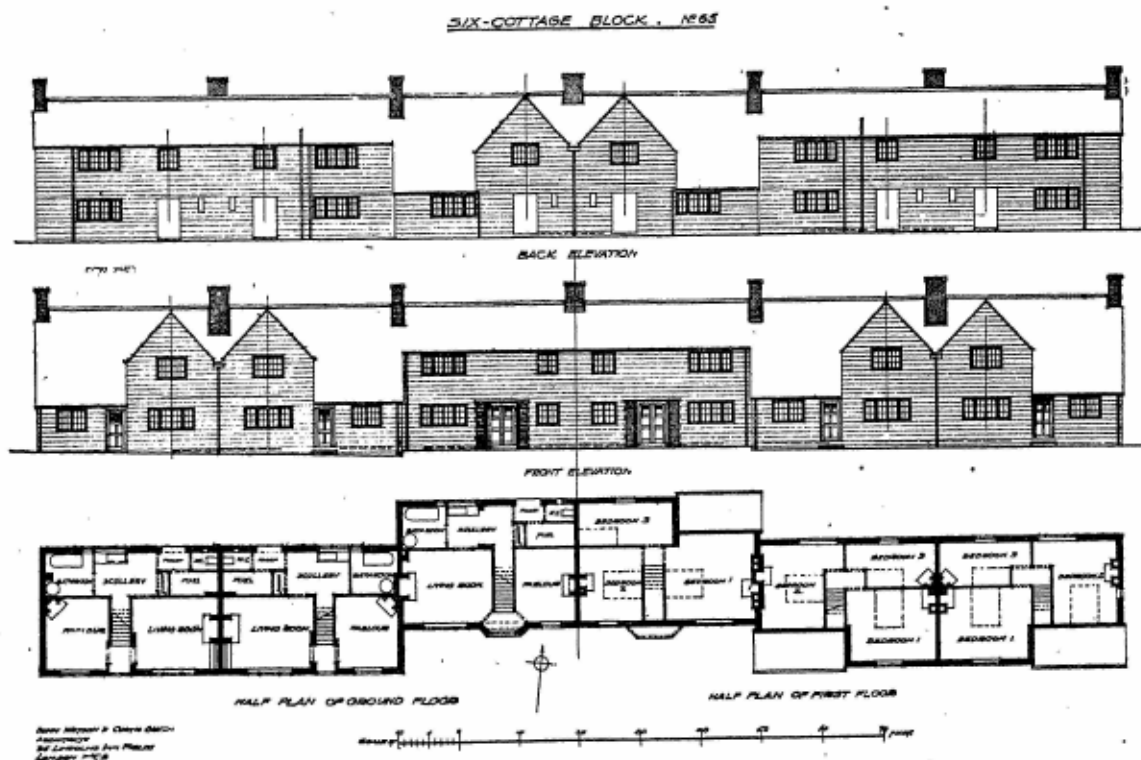
THREE - COTTAGE BLOCK, No. 57.



houses, was considered too great, and in practice this method of supply seems to give satisfaction. Sometimes the copper is in the scullery, sometimes in the bathroom which opens off the scullery. Each arrangement has its own advocates. In the larger houses for foremen, who are more careful and more responsible tenants, the bathroom is upstairs, with a proper hot-water service to the bath,



sink, and lavatory basin. The coppers are independent without brick-setting. The kitchen ranges were some of the Yorkshire range type, and some of the open-and-close fire type. The thresholds are in all cases set 2 inches above the floor line to allow for doormat.

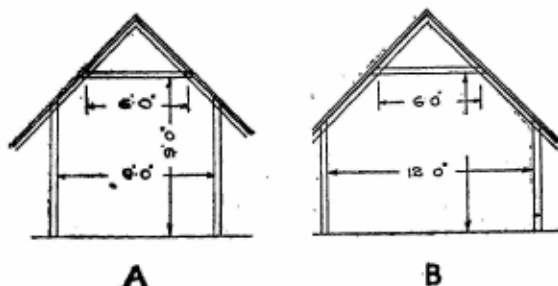


#### HEIGHTS OF CEILINGS.

The ground floor ceilings are made 8 feet in the clear as a minimum. As you will see from the drawings, the bedrooms upstairs are also 8 feet at least in the greater part of the room, but are more or less campceiled. The area of the flat part of the bedroom ceilings is not a fixed ratio of the floor area.

Many of the local councils require a fixed height in country districts of 9 feet in the bedrooms over at least two-thirds of the floor area. This would give us a room such as that in section A. But

it is difficult to see how such a room as that in section B is so much less healthy, that the State must step in and forbid it. For the cottager's purpose, the room in section B is better. It gives him more floor area and more cubic space. He naturally estimates the size of the rooms by the floor area in the first place. It would almost seem as if this were one of the by-laws enacted in a splendid enthusiasm for reform and the betterment of housing conditions which, in effect, if



insisted on as an unalterable rule, has quite a different result. We should all like the workman to have fine large rooms, but in the long run we know that his house is limited by the rent he can pay. To insist on such a regulation would often mean that we could not get an extra bedroom in the roof, and that extra bedroom would be a serious loss in giving him no means for the separation of the

sleeping rooms of his growing boys and girls. We found that the cost of the walling had a great effect on the total cost, and every foot in height of the walling had to be studied.

It is a curious commentary on the wisdom of our present building by-laws that in reports on housing prepared by Government committees of late years, we find it suggested that rigid compliance with the by-laws should not be insisted upon.

#### MATERIALS AND CONSTRUCTION.

The external walls are built of two thicknesses of 4-inch thick solid plain concrete blocks with a 3-inch cavity, with the usual iron ties. The blocks were made in Winget block-making machines, of which we had two on the works.

In the first cottages built, the blocks were each 32 inches long, 9 inches high, and 4 inches on bed, except the closers. At the corners, L-shaped blocks were used. It was found that the workmen objected to handling such heavy blocks, and in later houses the length was cut down to 16 inches. The appearance of the shorter blocks is not so good, and the walls are not so strong to resist settlements, though so far we have had no settlements to contend with. These hollow walls were built direct on the foundations without footing courses. The foundations were of cement concrete, 9 inches thick and 2 feet wide. The lintels had steel reinforcement, varying in amount with the span.

Here we may say a few words on the reason for the adoption of this kind of walling.

Cottage walls in the South of England are often made of two  $4\frac{1}{2}$  inch thicknesses of brick, with a 2-inch cavity. This makes a dry house, a warm house in winter, and a cool in summer, and is an economical class of walling for the purpose.

At the time this work was started, the only brick available in the district at a reasonable price was the large-size Midland pressed brick, which never gives a pleasing face. We found from actual tenders that the cost of the concrete walling was not more than this cheapest brick walling. It was practically the same. Then there was much greater difficulty in transport of bricks in war time; brickfields were also shutting down.

The concrete blocks were made on the site, of local stone chippings and sand, and we were confident from experience with other such blocks in cottages in the West Country that the appearance would be better than that of a wall of large pressed bricks. The usual cold grey textureless surface of concrete walling arises from the floating of the finer materials to the face of the wall. Here we used a dry mixture of concrete, so that we did not have that result. Then the face-mould—a cast-iron plate—had groovings in it, giving what is called in masonry a droved surface to the finished block, which has nothing of the dull appearance already mentioned.

There was another advantage in this droved face; we had no surface crazing which occurs in the smooth face, when that smooth face is due to the floating of the richer and finer materials to the surface. The many joints in the wall give it a power of expanding and contracting without developing visible cracks. In our climate the nights are always cool, and concrete does not get heated all through, so that there is comparatively little temperature effect: that little is taken up by invisible cracks in the joints. In climates such as Egypt it is a different matter, and there we must make provision for the expansion of walls, when the walls are of some length, as we would for steel girders. The concrete for the blocks was of 90 lbs. of cement to 2 cubic feet of sand and 4 cubic feet of stone to pass a  $\frac{3}{4}$ -inch mesh. The sand and stone came fairly well graded. The blocks could be used a few days after making in ordinary weather.

The partition walls were also made of the same blocks, without, of course, the droved face. The thickness was 4 inches for bearing partitions, and  $2\frac{1}{2}$  inches for the small partitions dividing sculleries, larders, fuel stores, etc. No plastering was done on the walls of these sculleries and domestic offices on the ground floor. The internal effect is like dressed stone. The saving in first cost of plastering is considerable, and there are no recurring bills for repairs to plastering which absorb so much of the rent.

This question of economy in maintenance is really an important one in workmen's houses. It had to be closely studied throughout. It would have ruled out parapets, barge boards, and such-like things which cost a lot in painting and repair, had we even wished to put them. You will observe that the party walls are not carried up through the roofs, and that there are no barge boards. The tiles project beyond the gables, and the edges are pointed, with a small cement fillet under the verge.

The roofs are covered with sand-faced tiles varied in colour. It was found that the extra cost of using these tiles instead of the cold blue Welsh slate was but little, and when you consider the æsthetic effect of the red-tiled roofs and grey walls, as compared with the blue slate and grey walls, there can be no question that the small extra cost was well spent. These houses are not like houses on a level site, on which the roofs are seen only in detail. A general view of the whole grouping is seen from the railway when entering Chepstow; it can be got from the City walls, and from the heights of the Hardwick Court land. The owners had in their mind that Chepstow has long been a residential place, and did not want to spoil it by the erection of mean dwellings.

The valleys are all swept valleys in tiles, and the ridges plane roll tiles such as you see in all the old cottages in the districts where tile roofs are used. Lead was unprocureable, so that none was used. The few small valley-gutters were laid in Ledkore, and the junctions with the vertical faces of chimneys, etc., were made in cement. The workmen who did the tiling were skilled men who took a pride in their work, and it is pleasant to record that, so far, there has not been a single case of leakage through either roofs or walls.

The floors and roofs were designed to be of ordinary timber construction, and the first 81 houses were so built. In later cottages we could not get permits to use imported timber for floor joists or floor boards, and, after a good deal of consideration, decided to use floors of hollow brick, with flat steel tension bars, for the first floors. These floors were formed on centering in the usual way. The ground floors throughout are of cement concrete, covered in the domestic offices with cement, and all the living-rooms, parlours and bedrooms with Wilfey flooring. Where the upper floors are of hollow brick, they also are finished with Wilfey floors. This floor will not, we fear, be so popular with the tenants as a boarded floor in the bedrooms, but we are building in war time and had to use what we could get.

The chimney stacks are in red sand-faced brick. Picture mouldings are provided in all living-rooms and parlours.

#### GENERAL ORGANISATION.

The site was only accessible from the railway by a long and devious route through the town, of steep gradients, rising considerably and then descending to the estate. To save cost in haulage, and to hasten delivery, the owners, then working in conjunction with the Standard Shipbuilding Company, whose yard lay between the railway and the site, erected a jetty for the landing of water-borne materials such as sand and stone, and made a temporary railway siding of the standard gauge from the railway through the archway under it, and up to the head of the site, at top of Hardwick Avenue. This siding could also serve the jetty, and brought goods in truckloads. This siding had a branch serving the Hardwick Court side of the estate.

The streets and sewers were begun in 1916, before the regulations under the Defence of the Realm Act (forbidding new building contracts over £500 without licence) came out, and were allowed to proceed. For the houses these licences had to be procured, and took a very long time to get. First we got licences for 15 cottages, then for another 15, and then for 100 more. The difficulty of getting men and material in these times is known to all of you, but these were only part of our troubles. The Government took over the Standard Shipbuilding Company's yard, and abolished the siding upon which we depended so largely—a necessary measure, no doubt, but one which added largely to the cost of the works. In August of this year the Controller of Merchant Shipbuilding took over this housing scheme, and we have now a railway siding again. We are also much better off in regard to men and materials; and the work is proceeding at a much better rate.

We may here mention that the doors, windows, stairs and chimneys, etc., were standardised, a limited number of types being used.

The first 15 houses cost about £450 each, exclusive of any proportion of roads, sewerage, garden formation or fences. The second 15 cost about £530 each. We cannot determine the cost per house of the remainder, as the cost of wages, etc., has risen a good deal, and forms a very important element in the total.

#### CONCLUSION.

As stated at the beginning, this Paper does not deal with principles, but is a simple recital of facts about the undertaking, the problems to be solved, the materials used, and the reasons which governed us in our decisions. We hope it may have some interest and be of help to others who have such works to do. We can say this, that such work calls for the exercise of all the knowledge, skill and experience one can acquire in the engineering side in the surveying and levelling and laying out of streets and sewers; on the organising side in managing the works and interests concerned; in planning cottages, and planning them cheaply; and in the art of architecture, in producing a pleasing result in the face of difficulties of all kinds—through it all one has to keep firm hold of the general conception, and see details in their true relation.

Some of the Committees which have been considering national housing for the working-classes have resolved that ladies should be appointed to criticise plans and advise as to the stairs and cupboards. The architect who builds cottages and larger houses has never failed to get plenty of criticism and advice, not, indeed, from the ladies who sit on Committees, but from the practical housewives, who actually live in and run those houses, who, though they do not claim to be amongst the intellectual and advanced women, still give the soundest and most abundant criticism of every detail, though expressing the most divergent views. There is not an architect of experience in this room who has not heard enough of the opinions of the practical women to make an expert of him. It is popularly supposed that an architect either never heard of such a thing as a cupboard, or, from some natural infirmity common to his class, has not sufficient skill to design one. It is difficult to remove that impression, but it may be said that in this particular housing scheme the proposal to put cupboards was vetoed by that stern autocrat, the gentleman who gave permits for timber. He refused to let us have timber for the purpose, and it seems fitting to record it here lest the absence of them should be used to prove the truth of the popular idea.

Before closing, it may be well to explain why reinforced concrete, which has so large a place in the public mind, was not used here, especially as the architects of the scheme have had so much to do with reinforced concrete work elsewhere. The reason is that knowledge and experience of reinforced concrete teach us its true use and its limitations. It is not a desirable material for external walls; it is expensive, almost certain to result in minute but disfiguring cracks when used for walls, and has not a pleasing surface as it comes from the moulds. It is too expensive for interior partitions. For floors it is not only expensive, but it communicates sound from room to room readily. It requires generally beams to support the floors and thus brings loads at points, not always in convenient places; it affords no facilities for fixing gas pipes, etc.

There have been suggestions made for its use in roofs. The flat roof—the most economical form for this material—is not suitable for cottage roofs in this country. It is cold, and its appearance is against it where tradition has so much to do with our ideas of the beautiful. Of course, we use trusses of reinforced concrete in factories where there are many repeats, of a standard pattern, but that condition does not obtain in cottage building on such a site as this. We have not yet solved the problem of making cottage rafters in it. Many capable minds are at work on the matter, and time may yet bring us enlightenment and good ideas.

#### STYLE OF ARCHITECTURE.

The days are happily gone when we were asked, "In what style is this building?" Architecture



is not a thing of mode: it is false to itself if it tricks out its works in the garments of another age. The Early English church, the Tudor cottage, the Jacobean house, as built in Victorian days, were essentially false, and foredoomed to failure. The controlling factor in the design of any building is the plan, and not even the wildest enthusiast would dream of reverting to the plan of the mediæval house or cottage. If we have higher ideals of home life and correspondingly higher and more complex requirements in planning, these must have the most important effect on the exterior—on the *style* of the design. Our task is to give the needs and the ideals of our time embodiment in our buildings—the best expression in the language of our day. No author clothes his thoughts, conditioned as they are by latter-day knowledge, in the language of Chaucer or of Spenser. His language is certainly based on and derived from the early writers. So it is with the expression of our works as architects. Our language is based on the language of William of Wykeham, of John Thorpe, and of our forebears; but it would be ridiculous affectation to use their speech or strut about in their clothes.

So these cottages are simply cottages of this time. We are given the needs of a home for a labourer or artisan or a foreman, and we have so to contrive our design that they may be satisfied and that the decencies and the graces of life are open to him. To the material requirements of health and bodily comfort and convenience we have to add such pleasures as can be got from the eye, through which we appeal to the mind and heart; variety in plan and appearance; proportion, mass, and grouping, and all those elements of design which are as undefinable as the pleasing elements in poetry or music.

The man who has a home, not as one of hundreds in a mean, unlovely street, but with something of homelike qualities, may be expected to feel that he has something to fight for. On a fine old house in Stirling I saw an inscription which, if my memory is correct, ran thus:—

“I pray who look upon this lodging  
In gentleness to be your judging.”

The sentiment appeals very strongly to one to-night, knowing the difference there always is between our aim and our attainment.

It should be clearly understood that this Paper does not refer in any way to the extensive housing scheme now being carried out in the Chepstow area as a national undertaking, although the houses described have now been absorbed in the larger scheme and form part of it. The houses at present being constructed by the Government afford more ample accommodation in many cases, and differ from the houses referred to in the Paper in a number of respects—notably in the provision of electric light, hot water systems, etc.

## DISCUSSION OF THE FOREGOING PAPER.

The President, MR. HENRY T. HARE, in the Chair.

Mr. RAYMOND UNWIN [F.]: It gives me much pleasure to move that our best thanks be given to Mr. Dunn for his very able, appropriate, and timely paper. He has given us a masterly demonstration of the importance and the advantage in every way of having a competent architect in charge of every housing scheme. He has, moreover, given us a demonstration of the wide range of knowledge required in the architect, the number of points that have to be considered, and the high degree of skill that is required to carry out a housing scheme, as he has carried out this one at Chepstow, on difficult ground, and to produce, as he has produced, an eminently successful result. It had often seemed to me that house building—cottage building particularly—in the

last century had come to be regarded as a job that any fool could manage. Mr. Dunn has shown the folly of that idea, and I hope that the example he has set at Chepstow will be followed by all who are to take part in the housing schemes of reconstruction. We have owed much to Mr. Dunn in the past, and now he has put us under a further debt at a time when we are about literally to rebuild—or to start rebuilding—the homes of the working people in this country, and when the character of those homes will be settled for a very long period. We owe Mr. Dunn our very hearty thanks for the help he has given to us in this matter. I was particularly struck by what Mr. Dunn told us as to the small amount of time occupied in the preparation of the contour plan. People have the idea that

this is a great business and a useless expense. Mr. Dunn, I believe, would confirm the view that he has saved the cost of that contour plan many times in the economy of his roads and works. We must congratulate Mr. Dunn on the complete success with which his structural work has been carried out. The fact that there has not been a single leakage in walls or roof is certainly a triumph in concrete construction, and I should like him to tell us whether he used all or the majority of his blocks practically green from the machine, a few days old, or whether length of time was allowed them to mature, and also what mortar he used—cement or lime mortar. Many have found the great difficulty in concrete blocks due to cracks which arise through expansion and contraction, and not through settlement, to which they are erroneously attributed. With regard to the hot water question, here we are in a transition period. A great demand is being made among the working women of the country for some labour-saving appliances to be devoted to the house work, and there is considerable probability that developments will take place along the lines of better systems—more economical systems—for using heat, and we must be on the look-out for that. In any work that we undertake in the building of cottage houses we must have our eyes open, for there will be new developments. Quite a number of firms are working at the problem, and researches are being carried out by the Department of Scientific and Industrial Research. There is reason to hope that we may be relieved of the difficulties arising from local by-laws. A committee was set up by the Local Government Board before the war commenced, and will report shortly. The results of their labours may greatly relieve the situation.

Professor S. D. ADSHEAD [F.], in seconding the motion, said: I have had the advantage of Mr. Dunn's acquaintance for a great many years—at one time I was working under him in his office—and I have always regarded him as one of the great exponents of the possibilities of new methods of construction with regard to architecture. It is of particular interest to me to note the method of construction that he has adopted at Chepstow, and I am perhaps a little surprised, if not disappointed, that he has adopted so simple and so straightforward a method as two four-inch walls and a three-inch cavity. I rather looked forward to something a little bit more original. But Mr. Dunn is sound as well as original, and he has told us that the peculiar conditions of the site did not enable him to use methods which in other cases might be possible. I think we shall get concrete cottages in the future that will perhaps absorb not quite so much material, and will be perhaps what Mr. Dunn would describe as more scientific if carried out in large numbers and in places where the right material and workmanship are available. Mr. Dunn has used concrete blocks, and he describes the broken stone and the method in which it was used so as to obtain a certain characteristic colour. My own view is that cement under any circumstances after a time looks

dilapidated. I always prefer to see it coloured. In the particular system Mr. Dunn has used the joints show, too, and whilst I admit after seeing an illustration of one of these cottages that it was the most artistic cottage that I have ever seen in concrete blocks, at the same time I do feel that as a system the blocks are better cemented and lime-whited, and especially if the roofs are tiled. I hardly follow Mr. Dunn in his objection to using slates in that district. I do not know the district, but I should have thought it would have been a slate district.

Mr. A. J. PITCHER: We are all keenly interested in the problem of housing of the working classes, and it would certainly appear to be a very successful scheme that has been put in hand and carried to partial completion by Mr. Dunn at Chepstow. At the present time architects are very much concerned as to who will eventually carry out this great National housing scheme, and whether the Local Authorities will be entrusted with the work and will employ their own Surveyor, or whether they will call in the aid of architects. The papers read here are most interesting and instructive, but I fear they will be of little practical use if we as architects are to allow the opportunity to pass of carrying out this work. Unless a definite policy is settled by the Government at an early moment, there will be grave danger of the work being eventually found to be in the hands of the old speculating builder, solely because there will not be left the necessary time for the preparation of the considered schemes such as all of us are so hopeful of seeing carried into execution. With regard to Mr. Dunn's scheme at Chepstow, there are one or two minor details upon which I should like to say a word. One is the question of the range. Apparently Mr. Dunn has placed a range in the living room and a gas cooker in the scullery. The range is not fitted with a boiler for the supply of hot water, which has to be obtained from the copper, and I rather think that, under those conditions, it would be preferable to fix in the living room a simple type of fire grate, which can be used for saucepans and kettles, and without an oven, the gas stove being used for baking, etc. The usual kitchen range is a great coal waster, involves a great amount of work to keep clean, and is ugly. With advanced ideas of comfort, the working family will demand something more cheerful than the kitchen range to sit round after their day's work is done. As a minor criticism on the section which Mr. Dunn showed us of the bedrooms, with 9 feet for the ceilings and an area of two-thirds flat ceiling, I agree that the bye-laws are often at fault, but as illustrated in Mr. Dunn's sketch it would appear that the area of the ceiling has been retained and the side walls pushed out on either side, which reduces the headroom at the wall plate but increases the floor area. In practice, however, the position of the walls is fixed, and if the height of them is reduced to that shown on Mr. Dunn's sketch "B" the ceiling would be brought to almost an apex, and it is for this reason that the bye-laws,

rightly in my opinion, insist that two-thirds of the area of the room should have a flat ceiling. I am very much interested in noticing the cost of the cottages—£450 each for the first fifteen, £530 each for the second fifteen, and an amount as yet not ascertained for the others. This question of cost is a difficult one, and I do not know how it is going to be faced. The ordinary builder will certainly not spend anything like £530 for a three-bedroom cottage, with the possibility of a falling market, and it would almost seem that the Government is committed to a subsidy on working-class cottages for some time to come. It is, however, of the greatest importance that architects should be entrusted with the work of designing the housing schemes now under contemplation, and that these should be carried out on similar principles to those so successfully adopted by Mr. Dunn at Chepstow. Otherwise, I fear that the present opportunity will pass without any advancement towards the solution of this problem.

MR. HERBERT BAKER [F.]: We are all impatient to study the plans which Mr. Dunn has to show us, and therefore I will not prolong the discussion, except to say that it has been my privilege to know Mr. Dunn and to have worked with him years ago, and it has always seemed to me that the contending elements of the artistic with the practical, which all architects have to contend with, are so "well mixed in him" that he keeps them in perfect equipoise, and the result is always living architecture. I should like to ask him two questions: First, whether he thinks that a communal hot-water supply is a practical possibility? Secondly, the Report of the Local Government Board just published recommends for very hilly sites, that if the cross slope of roads is more than 1 in 6, there should be a narrow road with houses on one side only, but I believe Mr. Dunn has got over the difficulty by entering the lower houses on the half landing, which involves windows low against the ground and asphalt vertical damp courses.

THE PRESIDENT: We are very much indebted to Mr. Dunn for the paper and the drawings. Any contributions to the solution of the housing problem at the present time is most useful. I gathered from Mr. Dunn that if conditions had been otherwise he would have used ordinary brick walls. There is a considerable amount of controversy going on as to whether concrete or brick walls are cheaper or better, and one is always anxious to get information, because a very little economy is worth securing on account of the enormous amount of repetition in these houses. As far as I have been able to get information there is nothing cheaper than the usual brick wall under ordinary conditions. I know that there are some manufacturers of concrete blocks who say that these are much cheaper, but, so far as I am able to ascertain, that is not the case, given a fairly easy supply of suitable bricks. But from what Mr. Dunn has said, I gather that the bricks available here were expensive

on account of the distance of transit, and that, moreover, they were not very suitable bricks. With regard to the size of the blocks, where you are using cast concrete blocks, the larger you can cast them, within the limits of easy handling, the more economical, I take it, the use of the blocks will be. There is one point, however, which must be taken into account, if you have large blocks or blocks of any considerable size you lose very greatly in the appearance of the cottage, providing the joints show. In these tiny buildings, if you have large blocks, loss of scale is inevitable, and therefore I should have thought it necessary to cover the blocks with something in the nature of cement or lime whitening so as to conceal the joints. But I have not seen the cottages, or any illustrations of them, so that I may be making a criticism which is not justified. I have heard a good deal lately about the provision of baths in cottages, and the conclusion that has been come to is that a separate bathroom is a practical necessity, even in the smallest of them. The ordinary arrangement which has been adopted of putting the bath in the scullery is objected to on the ground that there is no privacy, and when the scullery is used as a bathroom it prevents anybody going out at the back door. That criticism is very extensively made where the bath is in the scullery, and it is understood that in most of the cottages which are to be built almost at once a separate bathroom will be more or less a necessity. The Institute has taken every possible action in its power in order to insist upon the employment of architects in these housing schemes which are now being initiated by the various local authorities. In all the negotiations we have had with the Local Government Board in connection with the competition recently held we have put forward that position in the strongest possible way, and we are now issuing a circular to local authorities in the same sense, suggesting that it is to their best interests to employ in every case an independent architect; and as far as one can get any information up to the present time, I think that course is being taken very much more largely than has been the case hitherto. It seems to be recognised that the greatest skill and experience are necessary in these small problems of housing, simply because they are small; in that proportion they are so much more difficult than larger problems, and if we are to get anything better than the rows of hovels we have been used to see, it must call for the greatest skill and consideration and the greatest exercise of the experience and judgment of an architect. For that reason we hope and expect that architects will be employed in the majority of the cases where these schemes are being put forward at the present time, and I may say that the Local Government Board have given us the assurance that although they are not in a position to insist upon that being done, still, that is their intention, and that is the course which they hope will be taken by the local authorities.

MR. DUNN, in reply, said: On behalf of Mr. Curtis

Green, who is associated with me in the scheme, as well as on my own behalf, I thank you very heartily for the kind things you have said. With regard to Mr. Raymond Unwin's question, the blocks were usually not used less than a week old. In some cases we had to use them very quickly; generally, however, they were considerably older than that. They were set in cement mortar, and the joints were designed to show. We had no desire that the joints should not show, and I think if you saw the cottages you would be rather surprised to see how successful the walling has proved. It is not in the least of the cold grey colour associated with concrete. To lime-white it would be to lose its charm and colour, as well as to add considerable expense, and to cover the walls with cement would also add to the expense. As to the dilapidation of age, I do not think these concrete blocks are likely to dilapidate. After two years the blocks look as if they would last for ever, and well-made concrete should not suffer from age by any manner of means. With regard to Mr. Baker's question as to a communal hot-water supply, I have not found any method of doing that on a practical scale, especially on such a site as this. The loss of heat in transit, and consequently the added expense, would be a great difficulty, and on a hilly site the pressures would be greater than one should have. As to the ceiling sketch which I showed you, one of the speakers suggested that the local by-laws would not have quite the same effect as I anticipated, but I speak from experience—I have been compelled to alter the partitions. There are architects so indifferent to local by-laws that they show on their plans cupboards all the way along, and by some strange forgetfulness the cupboards are not put! But local by-laws insisted upon it and I had to do it, to the great regret of the owner. There are one or two other points to which I may allude. The question was asked about local authorities employing architects. I have here a memorandum by the Advisory Panel appointed by the Housing Committee of the Government which states that it is essential that the plans should be adapted to local needs by an architect of skill and taste. The Government Committee think it very important that the work should be in charge of an architect, otherwise the high standard of design and lay-out which is desirable could not be secured. I am sorry that I was not able to satisfy the hopes that were built upon me of producing something entirely novel, but, you know, as you get older, you get a little less likely to try experiments on a large scale. One might try it with a wealthy client on a small scale, but when you are doing a large amount of housing for a private company who have to regard the cost of your scheme, you have the feeling that perhaps it is safer to adhere to well-tried lines.

Mr. FRANCIS HOOPER [F.] writes:—The Council is to be heartily congratulated on securing Mr.

Dunn's paper to open the programme of this new and momentous Session. The author, too, deserves the thanks of the public for showing how a Housing Scheme can be developed, when entrusted to independent professional advisers.

Complaints are frequent of obstructive building bye-laws. I write reservedly but with confidence that some Officers of the Local Government Board are far ahead of many Urban and Rural Councils, and that these latter bodies may be a real impediment to increased elasticity. Taking, for example, the case of the width of thoroughfares—some districts require an arbitrary minimum of 40 feet, the construction and upkeep of which have tended to discourage enterprise. Again, the height of rooms has doubtless enabled Council officials to air their "righteous" opinions in the cause of sanitation so called, involving unprofitable cost of construction and loss of floor-space due to extra and unnecessary stairs. Roads, if narrow, however, should be short, the building-lines being adjusted to ensure ample aeration and privacy of the houses. Lack of privacy, in many present-day homes, may account psychologically for some of the curtained and sealed windows so regrettably prevalent.

Tree-planting, if part of the scheme, should be done with dwarf kinds, avoiding limes, chestnuts, oaks, sycamore, and such-like timber-growing trees, by use rather of the *Prunus pissardi* or other small-leaved, slow-growing varieties, having delicate yet beautiful foliage.

Given wide footways, and roads over which fast through-traffic is impossible, the safety of children and old people is promoted. Fencing, too, is another important consideration, the maintenance of which is a source of continual expense, quite apart from its bearing on appearance. In some countries, people are trained, by familiarity, to respect boundaries though almost invisible. Why should not we in England do the same? If dogs cannot be controlled, do away with the dogs, and let us encourage children to take an interest and delight in the upkeep of flower and fruit gardens as well as vegetable plots.

Details of accommodation may surely be capable of standardisation, in view of the many excellent designs resulting from the competitions so ably organised by our President and Council, such variations only being included as will suit families in varying circumstances. What appears the vital necessity is to secure the right Lay-out, and for this the young architects who have been serving their country so nobly abroad should be not only encouraged but urged to undertake the work, settling down temporarily in different centres to plan and supervise the carrying-out of this national task—one which is worthy of the best brains both in organisation and execution—thus affording them a more or less open-air occupation for which their recent training has specially qualified them.



## IL BOCCADOR AND THE HÔTEL DE VILLE.

"Legends die hard," says Mr. Blomfield in his lively review\* of Mr. Tilley's new book. They do indeed; the theory that Dominique de Cortone was not the architect of the Hôtel de Ville is an instance to the point, of which the cat-like tenure of life is only equalled by that of the Bacon-Shakespeare fable. If, however, there be some readers still troubled by its phantom, they may be reassured by an obituary note.

Before discussing its last phase, it is worth remarking that père Du Breul, Parisian of Paris, born on the Petit Pont itself in 1528, and contemporary of the Boccador (who died in 1549), had no doubt as to who was the architect of the Hôtel de Ville. In his famous *Théâtre des Antiquitez* (liv. iii, p. 1014) he gives, not only the inscription over the great doorway—"incisum m. d. xxxiii, Idibus Septembris"—commemorating its erection by order of François I<sup>er</sup>, "Domenico Crotonensi architectante"; but further lines recording the completion† of the building, under Henri IV. and the great Provost François Myron, which he tells us had since been added to the same marble tablet. This book was no first essay of Du Breul in Paris history. Four years before he had revised the last of the many editions of Corrozet's work,‡ and had ample opportunity to correct any errors of fact. Sauval, it is true (liv. ix, p. 483), says that the design of the upper portion of the centre block being considered "gothic," it was completed from a revised design§ (1549). But Sauval was not born until a century after Du Breul; and his papers, published more than fifty years after his death, without selection or revision, are quite untrustworthy as regards anterior history; containing a vast deal of rubbish, mingled with much pleasant and useful information gathered from his own observation. His suggestion,|| for example, to which Mr. Blomfield refers, that Didier de Felin made the design attributed to Fra Giocondo for the Pont Notre-Dame is absolutely baseless. Didier was not in control of the work, nor was he, as Sauval supposed, *maître des œuvres de la maçonnerie*. Normand's extract from the *Registres de l'Hôtel de Ville* shows that sixteen men were

chosen to work under the orders of Jean de Doyac and Colin de Chesnaye the mason, one of the two *maîtres des œuvres* (the other was Gautier Hubert, carpenter); and that these two carried each a white bâton as symbol of his authority. Now, according to Sauval himself, "Jean de Doyac" was no other than—Fra Giocondo! A reluctance on the part of certain French writers to admit Italian authorship for their national monuments is ancient and notorious; and the lamp of their quasi-patriotism still glimmers fitfully—an *ignis fatuus* for the strayed antiquary.

However this may be, the legend of Chambiges, or someone other than the Boccador, having designed the Hôtel de Ville, was, I had thought, dead and buried, until Mr. Blomfield's "doubt if he were really more than a foreman" showed its lingering vitality. Many architects, among others my dear and honoured friend Honoré Daumet, held strongly the anti-Boccador view, on the grounds of the essentially French character of the design, and of its kinship to some work of Chambiges at Chantilly; and I am not ashamed to have shared it. But the matter has been exhaustively reconsidered during recent years, and the researches of the Comité des Inscriptions Parisiennes (1903-4), of the Société de l'Histoire de Paris et de l'Île-de-France (*Bulletin*, t. xxxi, 1904), of the Commission Municipale du Vieux Paris (*Procès-verbaux*, 1911), and of the Société Centrale des Architectes (*L'Architecture*, 1912), entirely confirm the earlier conclusions of Le Roux de Lincy, so long ago as 1846, and of Prost in 1891. The papers of the C.V.P. are especially interesting, for they record the debate on the whole subject, with Vachon himself—protagonist of the Chambiges legend. The adverse decision was unanimous (21 to 0), and there could hardly be a more competent tribunal.

It is difficult to see how any reasonable doubt can be retained in face of the following excerpts made by Tuetey from the *Registres*. We read that, on the 22nd December 1532, Pierre Violle, the Provost, with the Town Clerk, proceed to the Louvre, and are taken by François 1<sup>er</sup> into a *tournele près la garde-robe*. Here, awaiting them, is "Master Dominique de Courtonne," who shows them the *pourtrait* of the new building which the King wishes to be

\* JOURNAL R.I.B.A., Nov. 1918.

† The building was not only completed, but refurbished from top to bottom. Du Chesne (temp. Henri IV.) tells us that it was "Eslevé au plus haut estage de sa beauté par François premier & embelly d'une architecture qui n'avoit guere sa pareille. Mais les malheurs du siècle auoient du tout obscurcy son lustre s'il n'eust esté ces années passées rehaussé de riches embellissemens and nouvelles decorations."—(*Antiquitez et Recherches*, 6<sup>me</sup> édn. 1631, liv. 1, p. 115).

‡ The *Antiquitez Histoire et Singularitez de Paris*, itself recast by its author from his previous *Fleur des Antiquitez* in 1550, after six previous editions. This edition also contains the inscription given by Du Breul.

§ Félibien embroiders this assertion by "attributing" the revised design to Du Cerceau!—(*Histoire de Paris*, liv. xix, p. 975).

|| It is fair to observe that it is only a suggestion. He

does not assert, as Mr. Blomfield says, that Didier made the design, but only that since (as he erroneously thought), "Didier de Felin avoit la surintendance de cette entreprise; par conséquent qu'il en a donné le dessin." His preceding paragraphs, in fact, upset his own deduction, for he shows quite clearly that Frère Joconde was consulted at the early sittings of the Provost and Magistrates, when the design of the bridge and the disposition of the coffer-dam were being settled. From this, apart from other evidence, the conclusion is reasonable that he was the responsible designer. Du Breul says the following distich was to be seen, in his time, incised under one of the arches:

*Lucundus geminos posuit tibi Sequana pontes*

*Hunc tu jure potes dicere pontificem;*

which may allude to Giocondo having, some time before, rebuilt the Petit Pont. It was generally attributed to him, as Sauval admits (liv. iii, p. 218).

erected as *ung Hostel de Ville*.<sup>\*</sup> On the 12th May following the said Violle announces, to the assembled councillors, the financial arrangements the King has been pleased to make for the new building; according to the design "now exhibited by Master Dominique de Cortemer (*sic*), who has made and devised it."<sup>†</sup>

One more extract; this time from the Comptes de la Ville for 1533: "Messieurs the Prévost des Marchands and Echevins, by writing of 15th June 1533, have appointed and deputed the said Master Dominique de Berqualor, called 'de Courtonne,' architect, to carry out the works *du bastiment et édifice de l'ostel de la dicte Ville*, in accordance with the model ‡ made by him and examined and approved by the King." And, "to avoid mistakes, there is first to be made a model in joinery-wood." Yet Mr. Blomfield speaks of him as "an ill-paid craftsman, whose work, so far as the court was concerned, consisted of making wood models of houses, bridges, and mills."§

The Chambiges v. Boccador controversy has been simmering ever since 1882, when M. Marius Vachon, a zealous advocate of Chambiges, published a quarto volume|| setting forth his contention. But the immediate cause of its recent ebullition was his attack on the official Description (distributed gratuitously to visitors to the building) prepared for the Conseil Municipal, in 1908, by M. Lucien Lambeau, the distinguished historian. In this pamphlet Il Boccador is mentioned as the architect, and M. Vachon clamoured for its withdrawal; appealing for support to the Commission du Vieux Paris. Although, as we have seen, his arguments had already been examined and refuted by the Société de l'Histoire de Paris, he succeeded in reopening the question with the Commission, thanks to the immense personal respect in which Daumet (who backed him with a letter) was held. His views, though developed very fully, having failed to obtain a single adherent, the irrepressible Vachon then turned to Daumet's architect colleagues

of the Société Centrale; who, in deference to the memory of their late president, remitted the subject to their archæological sub-committee for yet further investigation. The result was the same; courteously thanking him for his confidence in their judgment, the architects intimated that they regarded the matter as settled; adding, diplomatically, *jusqu'à découverte de nouveaux documents*.

So much for the facts. It is perhaps of no great importance to know whether one man or another designed the Hôtel de Ville; certainly no more surprising that the design of Dominique de Cortone should have been influenced by the French surroundings in which he had worked for thirty years, than that Pierre Chambiges should have been inspired by prevailing Italian ideas in his arcaded ordinance at Chantilly. Both, so far as their work is concerned, were Frenchmen; whether born or "made" matters not at all.

And this brings us to the real point, which is that the history of architecture must be read in buildings, not in biographies and archives. Far too much is made of Charles VIII. and his *chevauchée* into Italy as marking the beginning of an era in design called the "Renaissance." Personally, I detest the term, as an utter misnomer so far as French art is concerned. But it has become current coin of speech for work of a definite period; to change the labels, as Mr. Blomfield proposes, and shift certain buildings from the Renaissance compartment into another marked "Gothic" (a term at least as "question-begging") is only to further bemuse the unfortunate student. The mistake is in the compartments themselves, not in the labels. There never was a "re-birth" in the art of building. There are no stylistic divisions; the periods melt one into another; their apparent border lines disappear when examined at near hand, and it is only by contrasting extremes, at wide intervals of time, that paper classifications are constructed. Not only the Renaissance, but all architecture, must be looked at as a whole; a majestic movement of evolution through the ages. Rhameses and Ictinos, William of Wykeham and Mansart, all dealt with the same eternal elements: each in his own way, moved thereto by the conditions in which he lived and worked. For the abiding essentials of architecture are: Plan—its strategic disposition; Scale—the relation of the part to the whole; and Construction; and the greatest of these is Plan. And though the architect understand all mysteries and all knowledge of carved detail, and have not Plan, he is but as sounding brass or a tinkling cymbal.

As to the work of our own time, it is not we, but those to come who must judge it. We are beflouted by critics for copyists of what has gone before; so, doubtless, were our ancestors, whether the giants who have lived or the pygmies who have perished. Yet their work bears the stamp of its date, and so will ours. Remains only to do our best according to the faith that is in us, nothing wavering.

JOHN W. SIMPSON [F.].

\* *Registre des délibérations du Bureau de la Ville de Paris*, par M. A. Tuetey (t. ii, p. 160).

† *Ibid.* (pp. 164, 165).

‡ Unlike the English word (as generally accepted), *modèle*, connotes any design or pattern to scale, not necessarily in the round. *Bois de menuiserie* covers both oak and pine.

§ The entry in the *Dépenses secrètes de Francois I.*, to which Mr. Blomfield refers (the only one, by the way, which mentions Dominique de Cortone), is not quite accurately rendered by him. Il Boccador was not "paid by the crown for this" (i.e., for making wood models) "a sum of 900 livres for work extending over fifteen years." On the contrary, he received that sum (between £700 and £800 of present money) as a Royal gift, to compensate him for services which had been insufficiently requited (où il a eu de grans pertes) "in respect of which the King requires no further account." Dominique de Cortone, who is specifically described in this entry as an architect, held a court appointment; and salaries are not entered in these accounts, which deal only with drafts on the King's privy purse.

|| *L'ancien Hôtel de Ville de Paris* (Quantin, Paris, 1882). This work must not be confused with his fine folio on the modern building (1872-1900), adopted by the Conseil Municipal for official presentation.



9 CONDUIT STREET, LONDON, W., 14th Dec. 1918.

## CHRONICLE.

### The R.I.B.A. Record of Honour: Fifty-eighth List.

#### *Fallen in the War.*

- PENDEREL-BRODHURST, Lieut. BERNARD RICHARD, 82nd Field Co., R.E., *Student*. Killed in action in France on 1st October.
- LOWRIE, Private WILLIAM JOHN, 5th Seaforth Highlanders, *Student*. Died of wounds, 14th October.
- DUNN, 2nd Lieut. GERALD MORTON, R.G.A., *Associate*. Killed in action in France on 13th October.
- WILLIAMS, Lieut. WILLIAM HAROLD, R.G.A., *Licentiate*. Killed in action in Belgium on 9th November.
- WALLER, 2nd Lieut. THOMAS JENKINSON, Northumberland Fusiliers, *Student*. Died of wounds.
- KNIGHT, 2nd Lieut. PHILIP. Killed in action in France on 29th September.
- METTHAM, Captain JOHN ARTHUR, R.E., *Licentiate*. Died on service at Archangel, on 12th November.

#### *Military Honours.*

- HITCH, Lieut. JOHN OLIVER BROOK, 21st London Regiment, *Associate*, has been awarded the Military Cross.

#### *Architects and the War.*

The PRESIDENT, addressing the meeting of the 18th November, said:—Before we begin the business of the meeting, I think I ought to say a few words with reference to the great events which have occurred since we last met. The war is over, and we have accomplished in the most complete and thorough manner all that we set out to do. The menace of Germany which has threatened us for two generations no longer exists, and our country holds a position now in the estimation of the world which it has never held before. We may, I think, feel justly proud of the part which architects, and this Institute in particular, have taken in the war. Our record of those who have actually taken part compares favourably with that of any other profession, while those who have indirectly contributed by service in this country comprise probably the majority of practising archi-

tects. We have suffered serious and special hardships, but these can now be forgotten in our success.

In our rejoicing we must not, however, forget those of our number who have made the great sacrifice for their country. There are probably few, if any, in this room who have not suffered the loss of relatives and friends. Many of our most promising and gifted young men are gone for ever. They have laid down their lives that their country might live, and we reverence their memory and mourn their loss. They will never be forgotten. I ask you to rise in token of respect for the memory of those who have fallen.

All present rose in response and stood in silence for a few moments. The President then announced that arrangements were being made to hold a Memorial Service at St. George's, Hanover Square.\*

#### *Ancient Lights.*

The PRESIDENT, at the meeting of the 2nd December, in introducing the motion announced on the notice paper, said:—

Few architects progress very far in their practice before they are tripped up by our extraordinary law relating to the access of light and air to buildings. To those of us whose work lies mainly in London or in large provincial towns, it is a constant bugbear hampering our designs, and restricting the proper development of our plans, and leading in a large number of cases to the mutilation and disfigurement of many fine buildings. In a very considerable proportion of cases the objection taken by the dominant owner is not really justifiable, if viewed from the ordinary standpoint of common sense, and many actions which cause endless trouble and expense are in reality entirely frivolous and speculative.

The English law as it stands to-day is apparently based upon the presumption that because a man has enjoyed for a period of years some benefit to which he has no right and for which he has given no consideration he, *ipso facto*, becomes entitled to that right in perpetuity. The onus of preventing the acquisition of such right rests upon the unfortunate victim who is in process of being robbed. To the non-legal mind, this appears to be an entirely unreasonable position of affairs.

In mediæval times the principle above stated appears to have been recognised in a vague kind of way without any clear definition of the period which should have elapsed, beyond such indefinite terms as "the memory of man" or "time immemorial." Occasionally there have been lucid intervals, as the judgment in the reign of Elizabeth which stated that "if 2 men be owners of 2 parcels of land adjoining, and one of them doth build a house upon his land and makes windows and lights looking into the other's lands and this house and lights have continued for 30 or 40 years, yet the other may upon his own land and soil

\* The service took place on Wednesday, the 4th December. A notice of the function is held over for want of space.

lawfully erect a house or other thing against the said lights and windows, and the other can have no action, for it was his folly to build his house so near the other's land." This instance of the sound common sense of our ancestors in the golden age stands out to-day and calls upon us to attempt, at all events, to rid ourselves of the incubus of this ridiculous law.

The vague and indeterminate nature of the law was to some extent regularized by the Prescription Act in 1832, which provided that the necessary lapse of time should be fixed at 20 years, but it did not define in any way what should be the nature or extent of the injury proposed which should justify preventive action. This was left to be settled by the endless procession of "cases." The law at the present moment is almost entirely made up of what is known as "case-law," the rulings of judges from time to time, some good and some bad. I think I may say that the only really valuable judgment which has helped matters is that in *Howard v. Colls*, in which it was laid down that the damage must be "material," though even that word is indefinite and subject to much variety of interpretation.

There is, I think, no division of opinion amongst those who understand the matter that the existing state of the law is unsatisfactory and should be amended. It is to the public disadvantage and prevents the proper development of our cities and towns; and, moreover, this is the only country on earth, so far as I know, where such a ridiculous system prevails. It is even confined to England and Wales. The more logical and sensible mind of our Scottish brethren will have none of it.

Attempts have been made several times by this Institute to tackle the question seriously. Committees have sat in conjunction with other bodies, and have considered and reported, recommending action to be taken to amend the law, but for one reason or another nothing effective has been done. I think the principal difficulty in the way has probably been the practical impossibility and the expense of promoting a private Bill in Parliament. However that may be, we stand to-day in no better position than we should have done if these committees had never sat.

We have just passed through (hardly through yet) the greatest war in all history, and during that period of trial we have had the opportunity of considering many things, and considering whether we could improve our position when peace returns. Amongst other things, consideration has been given to various defects in our laws which lead to useless and avoidable litigation, and I am told amendments have been drawn up which it is proposed to put forward as soon as possible for the consideration of the Lord Chancellor, and that many of these are likely to be adopted as Government Bills. The proposed Bill which is now before you falls within this category, and there appears to be a distinct prospect of its being dealt with in this way.

The object which has been borne in mind in drafting

the Bill is to secure that the owner of a building site shall be at liberty to develop such site to the full extent of its capacity within the limits of the Building Acts and Bye-laws, and subject to no disability imposed by his neighbours without agreement and consideration received. The terms of the draft Bill are as follows:—

#### ACQUISITION OF LIGHT (RESTRICTION) BILL, 1918.

##### AN ACT TO AMEND THE LAW RELATING TO THE ACQUISITION OF LIGHT.

- 1.—(1) After the commencement of this Act a right to the access and use of light to or for any building shall not be acquired by the mere enjoyment thereof for any period of time, and no presumption of a grant of a right to the access and use of light shall after such commencement arise by reason only of the enjoyment of such access and use for any period.
- (2) This section shall not apply to any right to the access and use of light which shall have become absolute and indefeasible before the commencement of this Act, or to any inchoate right to the access and use of light which shall have been acquired by the actual enjoyment thereof for the full period of twenty years before the commencement of this Act without interruption and accordingly every such inchoate right shall be capable of becoming absolute and indefeasible in the same way as if this Act had not been passed.
- 2.—(1) Section three of the Prescription Act 1832 is hereby repealed but this repeal shall not revive any custom referred to in that Section.
- (2) Nothing in this Act shall operate to bring any right to the access and use of light to or for any building within the provisions of Section One of the said Act of 1832.
3. This Act shall not apply to Scotland or Ireland.
- 4.—(1) This Act may be cited as The Acquisition of Light (Restriction) Act 1918.
- (2) This Act shall come into operation on the first day of January One thousand nine hundred and nineteen.

This, you will note, secures that no rights of light shall be acquired after the stated date, which would be the date of the Act. It is not retrospective and does not interfere in any way with rights already acquired; but it does affect all buildings erected within 20 years—that is, a building erected 19 years ago cannot acquire an indefeasible right at the end of another year. At first sight this may appear to be not quite just, as it would seem that, a large portion of the prescribed period having elapsed, a right had been partially acquired. This is not, however, in fact the case, for on the last day of the 20 years no more actual right exists than on the first day, and the adjoining owner would have a perfect right to block any lights even at the last moment. The law is therefore only proposing to do what a private individual would have a right to do.

I should have liked to extend the scope of the Bill so as to deal with existing rights by the establishment of a technical tribunal, thus disposing of vexatious and frivolous claims and avoiding much unnecessary litigation. We are advised, however, to confine the present Bill to the simple proposition expressed, and to leave the question of existing rights for future consideration. I hope you will agree that if we secure



the passing of this Bill, we shall have made an important advance in the direction of simplifying the architect's work and promoting the interests of architecture. I therefore move that:

"The Council be authorised to take such steps as may be possible to secure the passing of the proposed Bill into law as early as can be arranged."

Mr. WALTER CAVE [F.] seconded the resolution.

Mr. GILLIES SCOTT [F.] remarked that the Bill did not touch the question of grant. It might be that a man would build on a plot, and twenty years later his neighbour would want to build but would not be able to because his neighbour would claim his ancient lights.

The PRESIDENT pointed out that such a case could only arise where the vendor owned the adjoining land. He would put the point to counsel, but he thought it was better to leave any question of grants out of the Bill.

Mr. W. HENRY WHITE [F.] said he believed the Bill would meet with great opposition from vested interests, where money had been laid out in acquiring property on the assumption of the continuance of the existing law.

The PRESIDENT explained that in every case where a building had been put up within twenty years they were liable to be blocked to-day. All they proposed to do in the Bill was to reiterate that right, and prevent a perpetual right being acquired.

Mr. FRANCIS HOOPER [F.] said he cordially supported the Bill. In France the Code Napoléon had swept away similar onerous and frequently unfair prescriptive rights which had existed for centuries. The matter was a very vital one, and he congratulated the Council upon the energetic way in which they had dealt with it.

Replying to Mr. PERCIVAL M. FRASER [F.], the PRESIDENT said it was not the intention of the Council to go to the expense of promoting a private Bill. There was a distinct prospect of the measure being adopted as a Government Bill, which meant that it would go through without expense to the Institute.

Mr. DELISSA JOSEPH [F.] moved as an amendment that the draft Bill be referred back to the Council for further consideration. The proposal to check the acquirement of new ancient lights, he said, must be accompanied by the provision of other safeguards. If there were no control as between adjoining ownerships no one could be certain, after having developed his own plot to what seemed the best advantage, that his property would not be permanently injured when his neighbour proceeded to develop his adjoining plot. Machinery should be incorporated in the Bill which would insure the maintenance of some reasonable accommodation between neighbouring properties. This might possibly be attained by the establishment of a Board of Referees, on the lines of the Dean of Guild Court in Scotland, before whom plans for development should be placed, and who should decide between neighbours as to what mutual provision should be made for light and air. This would be merely carrying a point further the principle already established under the Building Acts as to space at the rear of a building, the height of buildings in relation to the width of streets, etc., etc., the purpose being the establishment of a certain amenity for securing adequate light and air, and hygienic conditions. From his extensive experience in these matters he was satisfied that few practical advantages would be obtained if the Bill were to go forward in its present incomplete form.

Mr. HERBERT W. WILLS [F.] said that the points to which the last speaker referred did not seem to come in at all, because one must go according to the bye-laws, and if windows were provided, there must be an open space for them. If the Bill passed, it would be like the Scotch law, which provided that a man could do what he liked on his own property, provided he observed the bye-laws.

Mr. SADGROVE [F.] formally seconded the amendment.

The PRESIDENT said he did not think Mr. Joseph understood that the idea at the back of the Bill was that every man must so build his property that he acquired all the light he wanted either from his property or from the public street—he must not do anything in building his own property which would prevent his neighbour from developing his land to the full extent. With regard to the establishment of a tribunal to deal with existing rights, the Council had had that in their minds, but they were advised that a proposition of that sort would be a very contentious kind of measure, and that to introduce it into the Bill would probably prevent its being accepted by the Government. The question of existing rights was a matter that would have to be dealt with by a separate Bill. He quite agreed with the desirability of having a tribunal, possibly on the lines of the Dean of Guild Court in Scotland, but it could not be done in that Bill.

Mr. FRASER asked for the names of the institutions which had been invited to express their views on the Bill; and whether they had all responded.

The PRESIDENT stated that the matter had been submitted to the Surveyors' Institution, the Society of Architects, the Institute of Builders, the Federation of Building Trades Employers, and the Institute of Arbitrators. All had replied except the Surveyors' Institution, and all were favourable to the measure except the Society of Architects. The latter were not necessarily unfavourable; they asked that the matter should be dealt with jointly by the Institute and the Society.

Mr. SADGROVE, President of the Society of Architects, said he was out of town when the matter came before his Council. But he quite agreed with their views. It was not that the Society objected to the Bill itself, but they wanted to know more about it, and what points had been considered. He understood that the Practice Committee had had the matter before them for several months; it therefore looked as if there had been considerable controversy upon it.

Mr. JOSEPH having expressed regret that the President could not see his way to include in the Bill provision for such a tribunal as he had suggested, the PRESIDENT explained that it was not his objection, but the lawyer's. Counsel who drafted the Bill said that it was not wise to include it. He himself, however, would rather make sure of the one clause being passed abolishing the right of a man to steal his neighbour's property than he would jeopardise it by trying to introduce the establishment of a tribunal. If they could get this one point through, they would be able later to take further steps.

Mr. JOSEPH: In view of that assurance I will, with the permission of the meeting, withdraw my amendment.

The resolution was thereupon put to the meeting and carried unanimously.

#### Housing the Working Classes.

Copies of the following circular have been issued from the Institute to all the Town Councils and Urban District Councils throughout England and Wales:—

*To Authorities contemplating the Preparation of Schemes for Housing the Working Classes,—*

In view of the large number of schemes for the Housing of the Working Classes which are being initiated by Local Authorities, may I be allowed to represent to such Authorities the great importance of their appointing an independent architect as their first step in the preparation of any such scheme.

Such houses have hitherto been erected mainly by the speculating builder, and in those cases where the local authority has provided them they have not been considered of sufficient importance to warrant the employment of an independent architect. It is, however, now

recognised that such buildings, occupying as they do so large a portion of our towns and country sides, constitute a serious architectural problem both from the economic and the artistic point of view, and that they demand the highest skill and experience in their design and execution.

In support of this, I may quote from a Memorandum recently issued by the Ministry of Reconstruction, which says:—

"Every endeavour should be made to ensure that in the houses built under the present scheme a high standard of design and lay-out should be maintained, which will be an example to be followed in all future building. At the same time, economy must be carefully studied, as without it no advance will be made towards a permanent solution of the problem. For the achievement of these objects considerable skill and experience in design and planning are required.

"It is not enough to obtain a series of good type plans. It is essential that these should be adapted to local needs by an architect of experience and taste, and that architectural skill should be employed in laying out the building estates on town-planning lines.

"We think therefore that it is very important that the work should be in charge of an architect, otherwise the high standard of design and lay-out which is desired will not be secured."

It is recognised by my Institute that in work of this kind which involves much repetition, the usual scale of charges should not apply, and a special scale has been drawn up applicable to these schemes. Apart, however, from the question of fees, it will be found that the employment of an independent architect of standing and experience will result in great economy, besides ensuring that the houses shall be pleasant to look upon and healthy to live in.

HENRY T. HARE,

*President of the Royal Institute.*

November, 1918.

#### Architects' Fees for Housing Schemes.

The following Scale drawn up by the R.I.B.A. Housing of the Working Classes Committee in consultation with the Allied Societies has been approved and issued by the Council of the Royal Institute:—

In fixing the Scale of Charges for the development of land, or for Housing Schemes, special arrangement will usually be required according to circumstances, but for ordinary cases the following are the charges:—

#### (a) HOUSING SCHEMES AND LAYING-OUT ESTATES.

For the preparation of a plan or scheme from existing maps, showing roads, building plots, and buildings in block, and including conferences with officials of local authorities, but not including surveying, levelling, contouring, or the preparation of detailed plans of buildings, the remuneration is as follows:—

For the first 25 acres ..	£2 2 0	per acre.
On the next 275 acres ..	1 1 0	"
On the remainder ..	0 5 0	"

Minimum charge, 25 guineas.

#### (b) ROADS AND SEWERS.

For preparing working drawings and specification of roads and sewers, obtaining tenders and advising on the same and in the preparation of contract, furnishing to the contractor one copy of the drawings and specification, general supervision as before defined, issuing certificates, and passing and

certifying the accounts, the charge is 5 per cent. upon the cost of the works. Should the works not proceed after the preparation of the drawings and specification the charge is 3 per cent. upon the estimated cost.

#### (c) BUILDINGS IN HOUSING SCHEMES.

In Housing Schemes the charge is 5 per cent. on the first 12 houses, 2½ per cent. on the next 60, 1½ per cent. upon the remainder. This percentage covers the ordinary variations in type of house and such minor modifications as are made to avoid monotony in appearance. Where the Local Authority assumes responsibility for the supervision and carrying out of the work these fees may be reduced by one-third.

This scale is not necessarily applicable if the carrying out of the work is effected in instalments and consequently deferred over a long period of years.

#### Charing Cross Bridge.

At the invitation of the London County Council a joint deputation from the R.I.B.A. and the London Society attended before the Improvements Committee of the L.C.C. on 20th November, to place before the Council the views of the two societies on the question of the erection of a new bridge at Charing Cross. The deputation consisted of Mr. Henry T. Hare, *President*; Sir Aston Webb, K.C.V.O., C.B., R.A. [F.]; Sir Ernest George, A.R.A. [F.]; Sir John Burnet, R.S.A., LL.D. [F.]; Mr. Reginald Blomfield, R.A. [F.]; Mr. Paul Waterhouse [F.]; Mr. D. Barclay Niven [F.]; Professor Adshead [F.], and Mr. W. R. Davidge [A.], *Hon. Sec.* Lord Plymouth, *President* of the London Society, would have been present, but was prevented by illness, and Mr. Ernest Newton, A.R.A., was also unable to be present.

The deputation was introduced by Mr. Hare, who emphasised the greatness of the opportunity presented at the present time for the construction of such a bridge, which, with its approaches, might well become not only a national monument, but an Imperial monument of the war and of the time of stress through which the Empire had passed.

Sir Aston Webb reminded the Committee that the House of Lords in July 1917, when the South Eastern and Chatham Railway Company's proposals for strengthening the existing railway bridge were before them, had insisted upon the insertion in the Act of certain measures intended to secure that every opportunity should be given for the consideration of a comprehensive scheme for a new road bridge at Charing Cross. These were, it will be remembered, "that no expenditure in relation to Charing Cross station, as apart from the bridge, should be incurred without parliamentary sanction, also that in the event of any public improvement involving the removal of the existing station and bridge being authorised within a period of fifteen years, the railway company should not be reimbursed for any expenditure they might incur on strengthening the existing bridge, and further that the railway company should not commence construction on the works above water until the expiration of three years from the passing of the Bill." (R.I.B.A. JOURNAL, Vol. XXIV., p. 223.) Sir Aston pointed out that all that was desired at the present moment was that the London County Council and their officers should take the question of Charing Cross Bridge seriously into consideration, and that the Council,

as the proper authority, should lay down the lines upon which any such scheme might proceed, without necessarily committing the Council, at the present time, to any serious expense.

Mr. Blomfield supported the suggestion, and said that the time was now ripe for action in the matter.

The Improvements Committee asked a number of questions in relation to the scheme, and the chairman, in thanking the deputation for their attendance, said he thought he might promise that their suggestions would receive very sympathetic consideration at the hands of the Council.

#### R.I.B.A. Finance.

Guildhall, E.C., 9th December 1918.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—We are informed on pages 16 and 17 of the JOURNAL for November that our Council proposes to use all its influence to induce every provincial member to join an Allied Society. Last year the R.I.B.A. spent £399 9s. in contributions to Allied Societies (excluding the allowances to their Presidents). If the present pledge were carried out it would mean increasing this outlay to no less than £600 per annum! And this is contemplated when, according to our last balance sheet, the overdraft at the bank was about £1,640, on which, of course, we paid interest.

I have made enquiries, with the result that I know of no other learned society that finances its Allied Societies. It is quite time we rescinded the By-law giving power to our Council to spend money in this way.

The Architectural Association was recently forced to appeal to the public for funds. The R.I.B.A. was founded in the interests of architecture, not in the interests of architects, and if our Council has £600 per annum to give away surely our greatest Association for architectural education should have the first claim.—Yours obediently,

SYDNEY PERKS [F.].

#### MINUTES.

At the Second General Meeting (Ordinary) of the Session 1918-19, held Monday, 18th November, at 5 p.m.—Present, Mr. Henry T. Hare, President, in the Chair; 26 Fellows (including nine members of the Council), 21 Associates (including one member of the Council), 8 Licentiates, and a few visitors—the Minutes of the meeting held 4th November, having been taken as read, were signed as correct.

The President, having addressed a few words to the meeting on the changed condition of affairs brought about by the armistice, went on to speak of the irreparable loss the profession had sustained through the death on the battlefield of so many of its most promising and gifted members.

On the motion of the President, the assembly rose and stood in silence in token of respect for the memory of those who had fallen.

Mr. Wm. Dunn [F.], having read a Paper entitled "A HOUSING SCHEME AT CHEPSTOW," a discussion ensued, and on the motion of Mr. Raymond Unwin [F.], seconded by Professor Adshead [F.], a vote of thanks was passed to Mr. Dunn by acclamation, and was briefly responded to. The proceedings closed at 6.30 p.m.

#### NOTICES.

Architects' Memorial Service, 20th December.

At the Church of the Assumption, Warwick Street, Regent Street, on Friday, 20th December, at 10.30 a.m., will be sung a solemn requiem mass for the repose of the souls of the Catholic members of the architectural profession who have fallen in the Great War. The sermon will be preached by the Very Revd. T. Donnelly, S.J.

Business Meeting, 6th January 1919, at 5.30 p.m.

A GENERAL MEETING (BUSINESS) will be held Monday, 6th January, 1919, at 5 p.m., for the following purposes:—

To read the Minutes of the General Meeting (Ordinary) held Monday, 16th December 1918; formally to admit members attending for the first time since their election; to proceed with the election of the following candidates for membership (the names of the proposers were published in the last issue of the JOURNAL).

AS HON. FELLOW.

LEVERHULME, LORD, THE RIGHT HON. WILLIAM HERSCHELE  
LEVER, Hon. Associate.

AS ASSOCIATES (8).

[The candidates are serving with His Majesty's Forces, and, being duly qualified, have availed themselves of the temporary concessions granted to students so serving (see Special Regulations, JOURNAL for March 1918).]

BROWN: WALTER JAMES [S., 1912].

CHRISTEN: REGINALD RAYNER [S., 1905].

CLEMES: FRANK [S., 1911].

FORTESCUE: GEORGE ALAN [S., 1918].

KEYLE: JOSEPH RASHENROOKE [S., 1914].

MACMILLAN: ALER LOWE [S., 1909].

RYLATT: ARTHUR [S., 1911].

TAYLOR: RONALD VICTOR [S., 1911].

Notice of Motion for Meeting of 6th January.

Mr. DELISSA JOSEPH [F.] has given notice to move the following resolution:—

That, in view of the recommendation of the Committee appointed by the Ministry of Reconstruction for the indefinite continuance in peace time of the wartime restrictions on building, and in view of the serious effect which such continuance would have upon the work of architects and building contractors and of the large body of building trade employes who will be released by the demobilisation of the Army, this Meeting requests the Council to at once arrange for a representative delegation to be received by the Minister of Reconstruction, before whom they may place the arguments for the speedy removal of the restrictions on building.

Sessional Paper, 20th January, 1919, at 5.30 p.m.

"THE MAKING HABITABLE OF OLD DWELLINGS  
IN TOWN AND COUNTRY."

By M. H. BAILLIE-SCOTT.

Appointment at Hankow.—Fully qualified and experienced Architect's Assistant wanted for Hankow. Work will consist of design of semi-public buildings, office blocks, residential flats, &c. Fertility and speed in detail essential. A.R.I.B.A. preferred, not more than 40 years of age, of good general health. Good address essential. Engagement for three years in the first place. Salary 400 dollars a month (£80 sterling).



COTTAGE FACING PUBLIC GARDEN, HAMPSTEAD GARDEN SUBURB.

## HOUSING: THE ARCHITECTS' CONTRIBUTION.

By RAYMOND UNWIN [*F.*].

Read before the Royal Institute of British Architects, Monday, 16th December, 1918.

THE subject of fittingly housing a great people is a very wide one; looked at in one way, the whole of it may be said to come within the purview of the architect; in this sense I could not hope to touch on a tithe of it to-night. Though the architect must deal with every side of it, more or less, we can perhaps distinguish a special contribution which it is his function and his privilege to make. It is this more limited aspect of the matter that I venture to ask you to consider. You will remember when at school being shown a simple experiment. A quantity of iron filings of different sizes are scattered on a metal plate; a strong magnet is then brought against the underside of the plate and gently moved; immediately the particles are imbued with a sort of life, and begin to arrange themselves in orderly manner, and the amorphous collection of filings is transformed into a symmetrical design about the poles of the magnet. Somewhat thus does the trained imagination of the architect, when brought to bear upon the multitude of requirements, conditions and materials which are summed up in the phrase "a housing scheme" inspire in them a kind of life, so that they begin to take their places, to assume right relations one to another. Hence there emerge order, proportion, design, and it may be, perhaps coming by grace rather than by merit, that mysterious something added which we call beauty.

This whole process of design is the particular, the difficult, contribution of the architect. It is particular because it springs from the interplay of two faculties, the special training of which largely constitutes the architect; the imaginative faculty which can create the image and see relations and proportions in that mental picture, and the expressively practical, which can translate the vision into fact. It is difficult because imagination and expression can only work freely when all the requirements and conditions are so thoroughly known and intimately realised that they have taken their place in



the instinctive properties with which the imagination creates its mental image. The conditions are far too numerous to be properly provided for by laboriously remembering them one by one and tediously adjusting the plan to meet point after point thus recalled.

We are all, I hope, now familiar with the work which has been carried on here during the war by the Civic Survey Group, and have seen how they have taken pages and pages of notes and statistics, which, in that form, months of close study would hardly enable one to master, and have translated them by the use of form and colour into a diagram, a single glance at which will reveal the significance of the whole matter far more completely than such prolonged study ever could: so wonderfully effective is the visual approach to the mind. Our imagination helps us in much the same way. It creates for us mental diagrams or pictures in which we can see at a glance the relations of things; if they are wrong, a new combination may be created almost in an instant, and the magic process can be repeated until we see the comfortable room, the convenient cottage, and the life going smoothly forward in it. If you are *seeing* the cottagers sitting round their winter evening fire, you cannot through forgetfulness so plan your house that the fireside is a passage way; the offending doors would stare at you from your mental picture, and you would have to remove them before you could feel in that picture the cosiness which your instinct tells you to associate with the fireside. So the interior and the exterior design are harmonised: you see the need of some bay, window seat, or what not in the room, and instantly call up the image of the exterior to see if there also such a feature can be made to tell; or, conversely, some demand of the exterior has to be collated to the interior, and its effect there has to be seen.

It is this power of design which is the special contribution that the architect, as such, may make to the problem of worthily housing and rehousing a great people; for with all their faults our people are a great people, as they have shown. Such faults as they have are largely due to the way in which they have been allowed to live. It has been brought home to us as perhaps never before that they are worthy of better things, and it is the least we can do to see that they get them. If we are to make our proper contribution as architects to this work, both we and the public must realise more of the nature of that contribution than either we or they have in the past. The public have thought of architecture too much as a species of clothing, a trimming, almost a camouflage, which could be applied to any plan by someone having the knack. We, in cottage design at any rate, have sometimes given ground for such opinion by adopting any kind of plan that would fit in with some preconceived idea of a good exterior design. At least it must be admitted that the plans have had little relation to the convenience and comfort of those who would live in some of the cottages we have been responsible for.

You may think I make too much of this matter, that to an architect who can do, and do well, far greater works, the design of the simple cottage should come easily. If any think so, I ask you to consider how numerous are the requirements of human life which have to be provided for, how imperious the economic and constructional limitations, and how diverse the materials and skilled labours which must be assembled and combined before a successful cottage can be completed. It is not our function to prescribe the mode of life which would suit the kind of houses we should like to build; that were comparatively simple. It is our duty rather to understand the modes of life and the ideals which inspire the people and cause them to seek new modes.

We shall do well at the outset to recognise that habits are undergoing change, and that we have now to provide for two distinct manners of life, and for a third, which is really a compromise between the other two. Not very long ago it would have been safe to conclude that the family would live, prepare their meals, cook them and eat them in the same kitchen or living room. This mode of life is still common enough, and likely to persist long enough to be one of those for which provision must be made. The house adapted to this mode of life being the simplest in character, we may call Type No. 1. The arrangement is common, both in houses having a living-room and scullery, and in those which, in addition, possess a parlour or second sitting-room. The addition of the parlour,



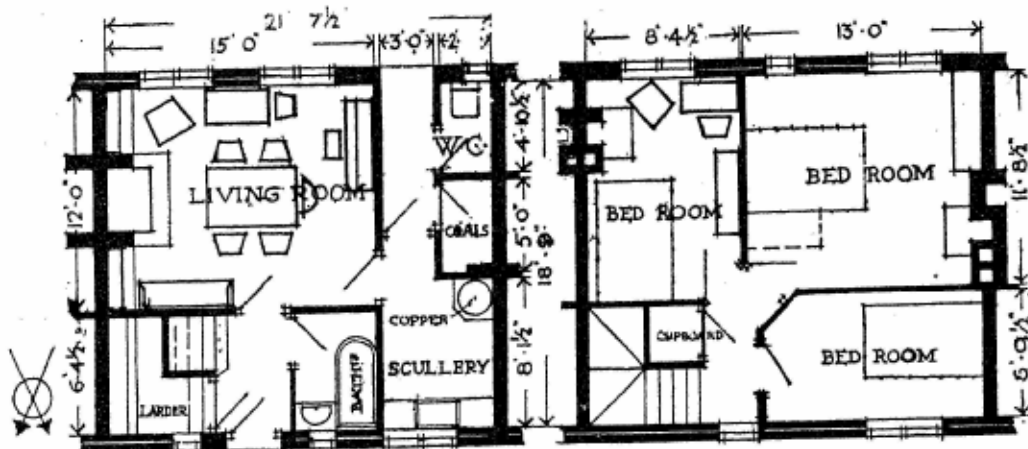
indeed, relieves to some small extent the great pressure of use on the living-room, which is one cause of discomfort with this arrangement, not, however, to the extent which might be supposed. Relief is being widely sought rather in the opposite direction, by making greater use of the scullery, and so freeing the living-room from the cooking of meals and much of the preparatory work connected therewith. When practically the whole of the cooking and much preparation is provided for in the scullery, the living-room ceases to be a kitchen, as in the first type of house. This involves very considerable changes in planning and equipment, and the use of two fires, or the exclusive use of gas for cooking. The house adapted completely to this mode of life we will call Type No. 3. Because there is the compromise between the two modes to be provided for, in which a part of the cooking is done in the scullery on the gas stove, but part is still done in the living-room when the fire is lit there, this we will call Type No. 2. Numerous combination ranges have been invented to try to secure for the tenants some of the advantages of both methods, such as the freeing of the living-room from the more pervading and savoury or the more dirty operations connected with cooking, while retaining the economy, both in cost and labour, of the one fire. The gas cooking stove has done much to make compromises possible, and will do more as its economy is increased, for there is much room for improvement here. I hope also that there may be developed for use in the scullery some really economical form of coke-heated cooking machine which will convert into cooked food or hot water the greater part of the potential heating power, instead of wasting most of it in overheating the small scullery, or in allowing it to fly up the chimney flue, as most of our present ranges seem to do.

It is not our duty as architects to decide which of these three modes of life the people for whom we build shall adopt ; though it may often be left to us ; it is our duty, however, to understand each of them. When our clients have decided which they desire to provide for, we should see that the house in all its details is adapted to that mode of life.

For the older Type 1, with its kitchen-living-room and scullery, or the newer Type 3, with its living-room and scullery-kitchen, it is fairly simple to decide on the best details of arrangement. The tools, the materials, and the storage for these accessories of the great culinary mystery which figures so largely in the work of a small house, should naturally follow the altar on which the ordeal by fire takes place. In Type 2, the compromise house, it is not so easy to determine which is the right arrangement ; but here we have at least the consolation of knowing that equally it is not always easy to determine which is the wrong one. If, however, we picture to ourselves the woman of the house performing her rites and mysteries, as we locate the fire, the larder, the table, the cupboards, or the living-room and scullery doors and windows, we shall perhaps most readily adapt our design to whichever of the three modes of life we are seeking to house.

To justify what has been said about the complexity of the problem, perhaps I may recall in brief summary the chief requirements provision for which is now considered desirable in a good cottage ; and at the same time I may suggest to you how type plans are of service in bringing these points before us and in showing general arrangements of the parts suited to various aspects. They may, in fact, serve the true purpose of diagrams, and will serve it without harm, if we realise that they are not intended to become stereotyped designs or to be slavishly copied. Certain details and certain dimensions may need to be standardised to a few sizes to secure economy in production ; but, apart from that, the type plan is not intended to hamper freedom of design, but to be used as a diagram illustrating the clients' needs. It may serve, perhaps, to set a minimum standard, but with the purpose of being improved upon, adapted in each case to the position, the site, and the form of grouping adopted. So used I have found type plans helpful in the early stages of planning both the house and the site. There is much preliminary spacing to be done in working out groups of houses, securing the correct amount of frontage for the right number of houses adapted to the particular aspect, which is not easily accomplished without the use of type plans. True such plans will be idly copied by some ; but without them worse ones would be copied by the same idle or ignorant folk. The architects'

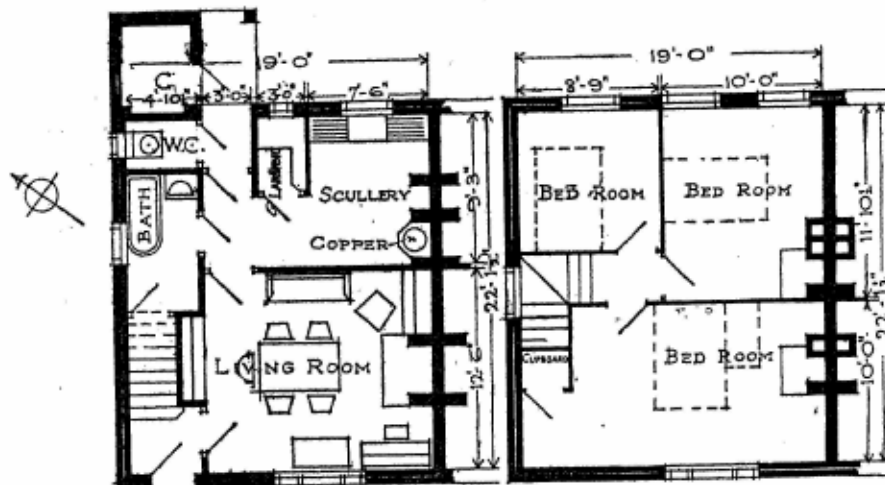
TYPE 1.



GROUND FLOOR PLAN.

FIRST FLOOR PLAN.

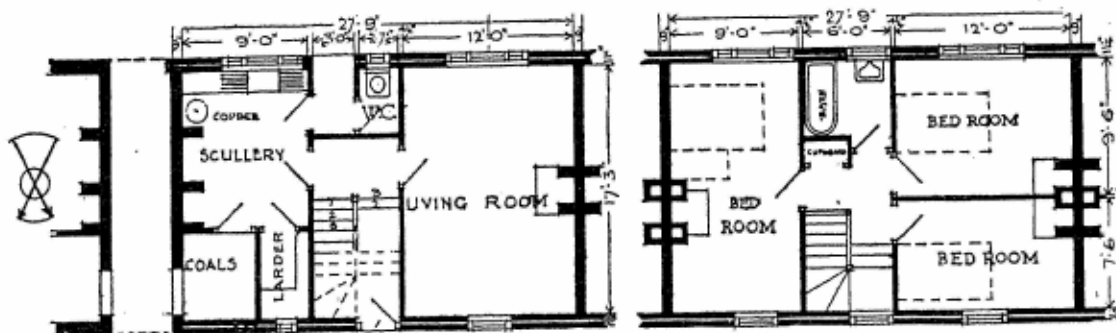
TYPE 2.



GROUND FLOOR PLAN.

FIRST FLOOR PLAN.

TYPE 3.

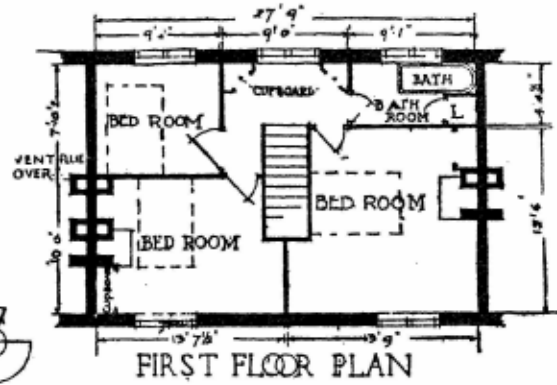
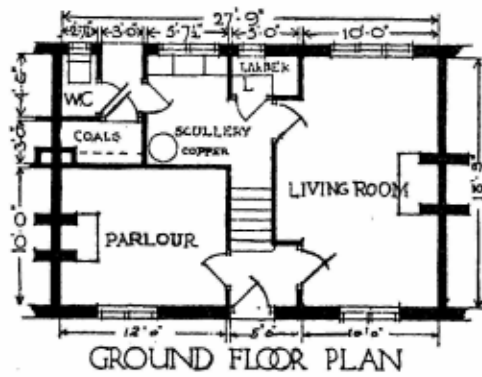


GROUND FLOOR PLAN.

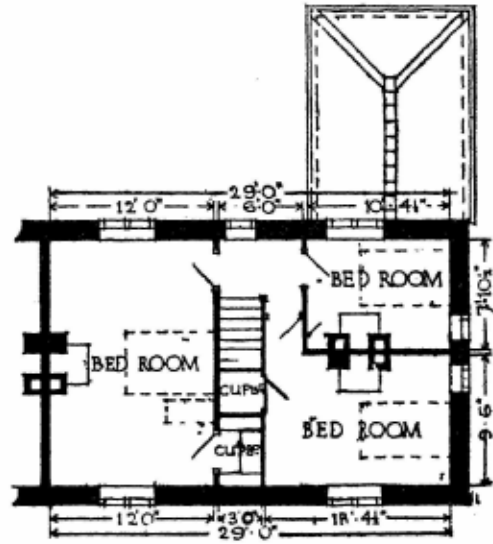
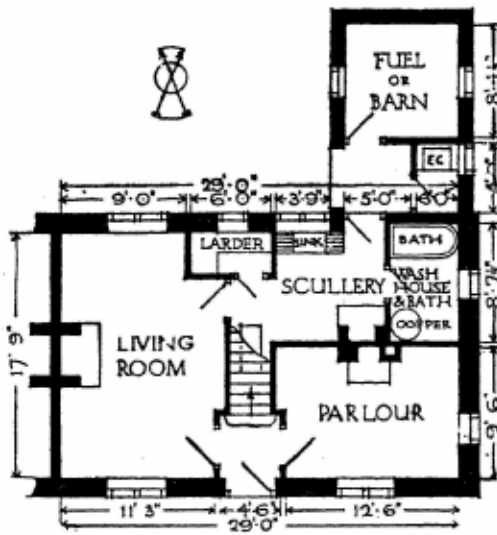
FIRST FLOOR PLAN.

PLANS FROM THE REPORT OF THE BUILDING CONSTRUCTION COMMITTEE OF THE LOCAL GOVERNMENT BOARD.

TYPE 1A.

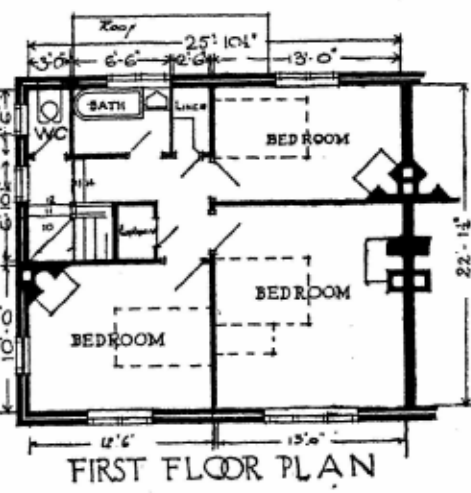
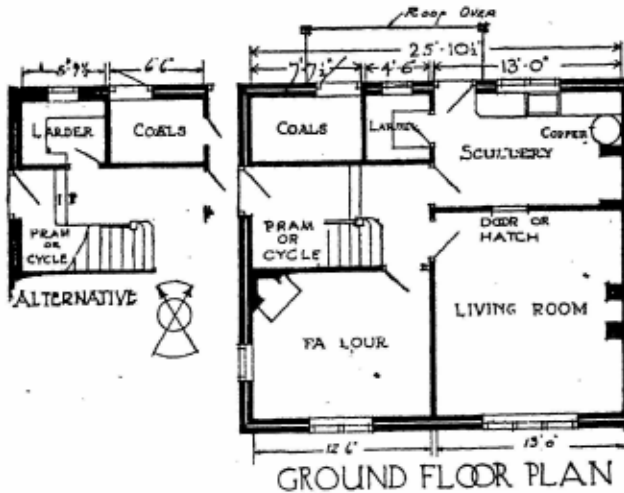


TYPE 2A.

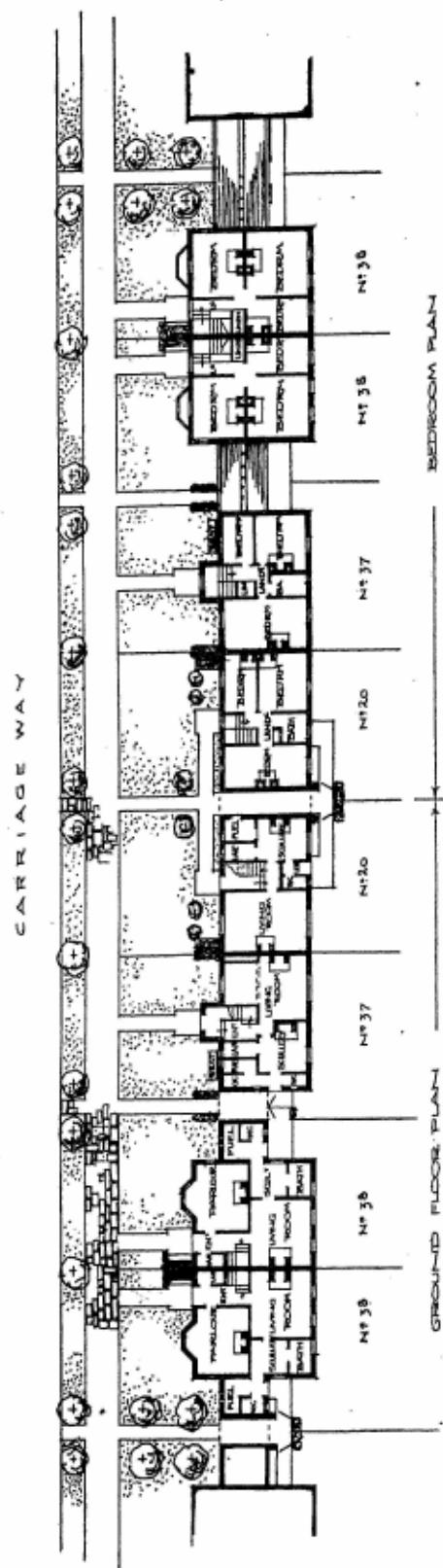
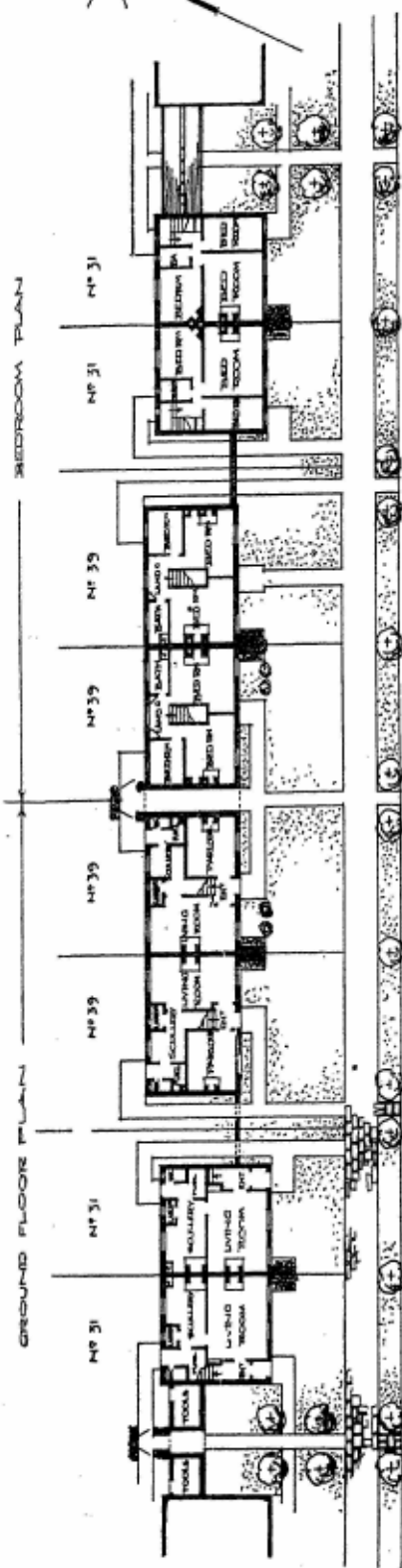


GROUND FLOOR PLAN (RURAL STONE) FIRST FLOOR PLAN

TYPE 3A.

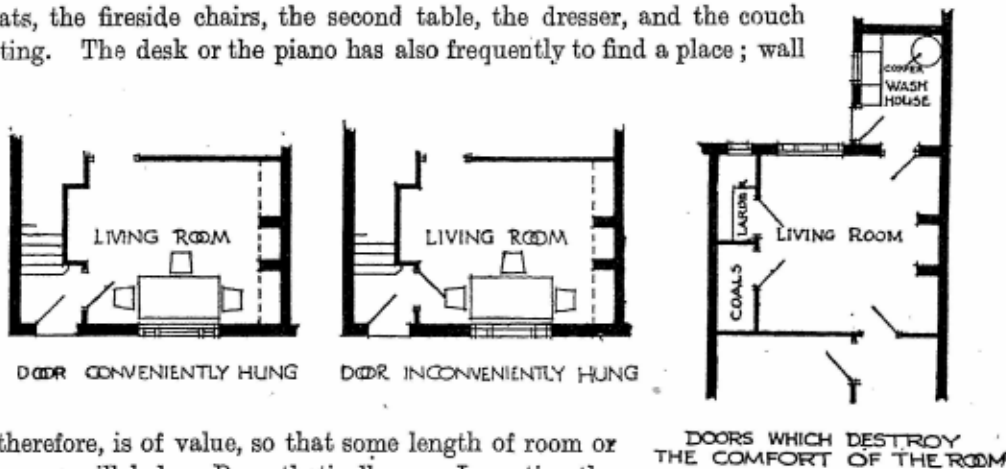


A vertical scale of feet, ranging from 0 to 40. The scale is marked with horizontal lines and numbers at intervals of 10 (0, 10, 20, 30, 40). The text 'SCALE OF FEET' is written vertically along the left side of the scale.



peculiar contribution largely begins at the point where the type plan leaves off. Such plan is to him but an imperfect aid, making up in some slight degree for the want of guidance by tradition. We shall see from the requirements, I think, that the problem is one of sufficient complexity to justify the acceptance of any legitimate assistance which can be given.

We will commence with the heart of the house. The living-room should be large, with a comfortable fireside, free from doors; the range, whether placed in this room or the scullery, should have side light, preferably from the cook's left hand; there should be table and cupboards convenient for use with the range. The space near the window, or windows, which is specially valuable, should be as free as possible from doors, or the traffic ways to doors (including cupboard doors). In the living-kitchen there should be planned a space for a second table; for it is most harassing that a family should have to put away all mending, dressmaking, or writing, before a meal can be prepared or served. There should be as few doors as possible, and they should open so that the least valuable part inside the room must be used for passage space. For furniture, there must be the meal table and seats, the fireside chairs, the second table, the dresser, and the couch for resting. The desk or the piano has also frequently to find a place; wall



space, therefore, is of value, so that some length of room or added recess will help. Parenthetically may I mention the great value of trying all this furniture in its place on the plan. Add to these requirements that this room should, if possible, have a south-east window, and in every case must have some sunny aspect, and as attractive an outlook from the windows as may be; that it should be well proportioned, its windows give efficient and pleasant lighting, and the whole be so arranged and designed as to be a homely and dignified setting for the family life. This room is the centre of the house, it may be supplemented by a parlour, or relieved of some kitchen functions by the scullery; but it remains in all types of cottage the room in which the family mainly live; and it is not possible to exaggerate the boon of comfort and pleasure which the architect may confer upon the occupants by providing a well-planned and beautiful living-room.

The scullery may be regarded as the domestic workshop, and labour-saving should especially be aimed at here. The cottager's house has generally to be run by the unaided labour of one woman, whose life is mostly occupied in cooking, cleaning, making beds, mending clothes, or minding the children. She should be given every convenience in the scullery, but no encouragement to live there. A sink must be provided at the right height to avoid needless stooping, with place for soiled pots and pans on the right hand, and on the left hand for laying them down when cleansed or standing them in the draining rack. Hot and cold taps are desired, and a window over for light, for the cleansing powers of light and air, for outlook, and to facilitate the duty of minding the children when they are in the garden. The washing copper is usually required, fitted with steam outlet and hood, and with taps for filling and emptying; the former may with advantage fill from the hot-water pipe, especially in the case of a gas-fired copper. A grate or stove for drying clothes, gas-cooker or cooking range—



the latter we hope soon of the efficient cooking machine type already referred to—must one or both be provided for, according to circumstances.

Storage or standing space for washing utensils, including wringer or mangle, for pots, pans, brushes, buckets, etc., and for the accessories of cooking, in so far as these are not better retained in the living-room for the particular type of house in question; saucepan cleaning, knife burnishing, and boot polishing, all have to be thought of, and involve a table to work at and more storage places. A lobby, porch, or outside bench and shelter may relieve the scullery of work and dirt. Any solution of the washing question, by the adoption of the joint or communal laundry, the "bag wash," or similar arrangement, would greatly simplify the problem of planning a well-equipped and convenient scullery within the limited space which, in view of the other demands, can usually be allotted to it. It is clear that cleanliness, convenience and compactness, with no frills, must be the aim in the planning and treatment of the scullery.

Reasonably handy to the room which is used as kitchen, but on the north side of the house, in a position cool and airy, a place must be found for the larder, which should be of sufficient size, in view of the distance of the house in question from a market of shops, well fitted with shelves, properly lighted and ventilated, protected from flies, and treated specially for cleanliness. The fuel house so placed that coal may be put in from outside and fetched for use under cover, large enough to hold at least a ton, and more in rural areas, must be fitted in the plan, usually accessible from the back lobby.

Where the house has no parlour to build over, and consequently the first floor area is all too small to provide three decent bedrooms, the w.c. and the bath-room may also need to be provided for on the ground floor. Other reasons, such as the absence of a pressure water-service in rural districts, or the prevalence of some specially dirty occupation, may indicate the ground floor as the better place for the bath-room. It may be conveniently located near the foot of the stairs, or entered from the back lobby, or even the scullery. When in the absence of water service it must be filled from the washing copper, this will influence its position; and in all cases, whether downstairs or up, simplicity and economy both in water supplies and drainage must be influential considerations in the grouping of all the parts which require these services. The w.c., if downstairs, may be entered from the back lobby, or from a sufficiently large and airy entrance lobby; if upstairs it should be entered from the landing near the window which should be regarded as necessary to light and ventilate every landing.

We must not be guilty of the traditional omission of the stairs. These should be easy, well lighted by the last-named window, and wide enough for reasonable furniture; they should start from the entrance lobby, and land so as to give direct access to all bedrooms, and to bath-room and w.c. when on the first floor, without needless waste of valuable floor space, which would be better added to the bedrooms. The stairs and the proper apportionment of the bedroom floor space are very determining factors, especially when it is remembered that the space must be so allotted to the different rooms that one having the best aspect may be large enough to be comfortably occupied by the parents and one or two small children; a second may be large enough for two adults, and the third at least large enough for two children, taking as an approximate basis a minimum of 500 cubic feet of air space in the room for an adult and half that amount for a quite young child; and when, owing to the aspect, two at least of the bedrooms must be placed on the more sunny side of the house.

Each of the bedrooms themselves will demand some care in arrangement. Suitable places for the beds must be found, out of direct draughts on the one hand, but not thrust into close corners on the other. The type of room which leaves only a passage-way all round the bed, and no square space available for occupancy, is not desirable. A corner free from bedroom furniture, and suitably placed as to window and fire, which could hold a chair for reading and a small writing table, would be a priceless blessing to many boys or girls whose individuality may need only such quiet and privacy to develop latent tastes or talents for the enrichment of their later life. Many of us who have had the good fortune to be brought up in far more ample houses than we are considering, remember, I am sure, what such a

corner in our bedroom meant to us in our young days. The need of some privacy for the individual is really greater, and its satisfaction more urgent, in these small houses than in those of larger types where it is often provided for. The locating of the bath-room on the first floor, and the provision of a lavatory basin in it, by removing the need for a washstand in every bedroom, is a valuable aid to the providing of this meditating corner, which I venture to suggest may find a place in the mental picture of the perfect bedroom which is to guide our planning.

I have left until last the considerations which affect the parlour both because there will still be houses built without this additional room and because all the other parts of the house maintain much the same relations to one another whether there is or is not this extra apartment. It is an added comfort and convenience, but is less than might be expected one which affects the general life and work of the family. It affords valuable occasional relief to the living-room, rather than effective constant relief. Hence there is no justification for reducing the living-room when the parlour is added, though there may be for increasing the living-room if the parlour is omitted. Some families will prefer one room of really ample size to the normal living-room and parlour, and there will also be a place for the arrangement which allows the parlour to be thrown open to the living-room by folding doors. There can, however, be no doubt that the majority of working-class tenants desire the parlour or second room for intercourse with friends, both of the elders and the young people, for parents' quiet and children's home lessons, for interviewing visitors, as a refuge in case of sickness or convalescence, and for similar purposes, which it must be admitted are not met even by the considerable enlargement of the living-room. To the somewhat long summary of requirements already named therefore we must add that of a small parlour; a room which should be planned to encourage reasonable use by its comfort and attractiveness. It should be given, if possible, a western aspect, that it may be sunny in the afternoon and evening, when most likely to be used. A window seat, or small bay to take advantage of sun or view, and book-shelves in a recess suggest themselves as appropriate. Wall space for the piano or couch, and a position for the small writing table near the window may be thought of, while suitably placing the fire where it will most add to the comfort of the room, and the door where it will least detract from it.

I have now touched on many of the requirements, but have not referred to the materials or processes of construction, nor to the limitations imposed by them, and by considerations of cost; but enough has perhaps been said to show that the satisfying of all these requirements within a space, as defined by the containing walls, of 25 by 20 feet, or thereabouts, constitutes a problem of some difficulty, demanding careful study, and affording scope for the exercise of designing powers of no mean order. It should be added that the house when designed will be completely adapted to one aspect only and perhaps to but one site. The fact is that life, even for the cottage dweller, has become very complex in our time, involving many needs and varied activities, for all of which the house must provide a setting. In past times a continuous tradition of planning and design was handed down from age to age, developing with the ever-growing complexity of life, styles of plan and treatment admirably adapted to national habits and local conditions. That tradition was rudely broken by the great industrial revolution which was responsible for a hasty urbanisation and the careless and wholesale production of cheap hovels for factory hands. It is time for us to take up again that tradition, the loss of which and the degradation of the home which resulted therefrom we now recognise to have been one of the greatest curses which have befallen our people; time to remember that if our people are many, and their houses congregated into vast cities, still each family is as valuable, as human, and as much worthy of a home adapted to its life and its individuality as were their forefathers who dwelt in the beautiful small houses with which our country is still dotted.

It is sometimes helpful to survey in a fresh sphere the working of tendencies or principles with which we are partially familiar. The gradual evolution of the traditional cottage home may be seen to advantage in all its stages in Scandinavia, and in miniature in that wonderful open-air museum of

Skansen at Stockholm, and the tracing of such development is instructive. In different parts of Sweden all types may be found in use. The Laplanders' wigwam, with its sweet-scented soft carpet of fir boughs, and its fire in the centre filling the greater part of the hut with pungent wood smoke, or the single-roomed log or stone cabin, which, as the first forerunner of the house as we know it, interests us more, may be found sheltering the most simple and primitive forms of life, and all the stages of development down to the modern house are plentifully illustrated in buildings still in regular use. We may see how there was added, first the open, then the enclosed porch, how the hearth in the centre of the house-place was superseded by the built-up fireplace and flue, how fresh rooms were provided to meet new calls for privacy, or the new needs of more complex life; and how beautifully made shut-beds and other furniture and hangings were added. The exteriors of many of the Scandinavian houses which result from such plans also have their interest, and a street of them may sometimes be very pleasing.

With such a series of houses it is instructive to compare the characteristics of those we built here before the industrial revolution, and to see how interesting were their plans, what simple and homely



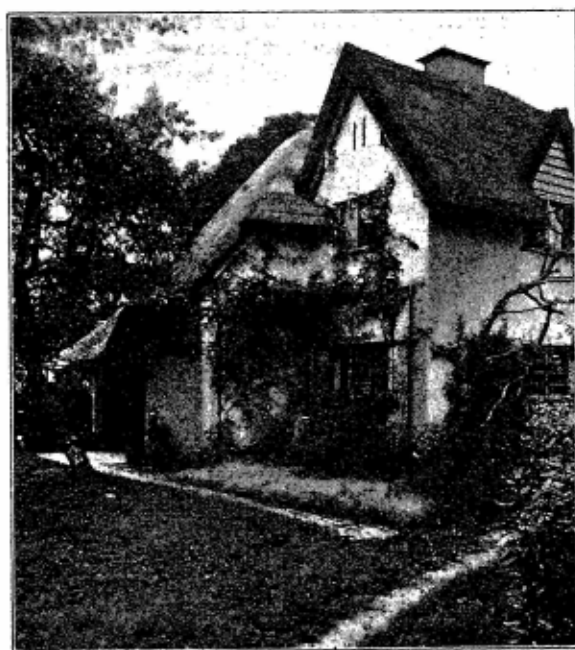
INSTITUTE AND COTTAGES FACING GREEN: BUILT FOR HAMPTON TENANTS, LTD.

dignity their interiors often had, and how pleasing were many of their exteriors, graced by some feature of special beauty, or distinguished by some mark of individuality, maybe a great porch, a sunny arbour, or merely a pent roof shelter giving a sense of homeliness. It is this simple quality of homeliness, that something to which affection may cling, which we may give to the houses we design. I believe it to be a great gift, worthy of all our efforts, and one which no one else can offer. Let us but remember, as we work at our cottage plans, that for many years—long after we have done our bit—the dwellers will be more comfortable, happier, and perhaps better, for the thought, the care, and the imagination we are able to put into the design, and we must feel that our labour is very well worth while, and that however great the number of houses to be built, each individual one is worthy of our best. The work must be done on a large scale and quickly, on a scale in fact never before attempted, and it will not be easy to avoid the dangers of wholesale design, and to secure its rightful share of thought for each house, for the call has come to-day to build half a million new houses as an instalment towards the rehousing of England. May it not be the architect's contribution to see that every one of these houses has at least enough of convenience and comfort within, and of individuality and comeliness without to inspire in those who shall dwell therein something of the affection which we associate with the word "home"?

If we are to do this, I have ventured to suggest that we must take the task of cottage design more seriously than we have done, must become more familiar with the requirements and conditions; so

familiar, indeed, that they take their place in our mental repertoire, and occur instinctively to our minds when engaged on the work. The requirements are so many, and so materially affect one another in the limited space within which we may move, that unless we learn to visualise them we shall hardly work with sufficient freedom. We are working without that subtle and pervading guidance which settled tradition seems to have given, and must make extra effort therefore. We need to catch the spirit of the old tradition while we study the life of the modern family, and so thoroughly know its needs that we can freely use our imagination to mingle the old charm with the new life, and give them expression both in the house we build and the surroundings in which we place it.

The contribution of the architect should not end with the house itself, for order, proportion and design are equally important in arranging the garden, grouping the houses, and laying out the roads and the spaces about them. I have not time to deal with this to-night, but may perhaps add that the same faculties as those which we have seen to be necessary for the designing of the house are required to satisfy the many needs and conditions, to determine the lines of the roads which will give convenience of access from place to place, or the right aspects to the houses, the character of the open spaces to provide pleasure or play, the nature of the public or other accessory buildings which must be provided adequately to meet the social, educational and other needs of a community, and the kind of site desirable for each, and the same imagination is needed to make of these parts a design. There will be repetition and danger of monotony, but well-proportioned repetition may, with proper handling, give us rhythm. There will be the cry for change, the need for adaptation to site, and great danger that a jumble will result ; but a firm grasp of the theme may maintain the essential unity which alone gives value to variations. The power to picture what the occasion calls for, and to translate it into fact, which has been referred to in connection with the house, is equally needed to complete the lay-out of the site and the planning of the area, to fittingly terrace the slopes or crown the ridges with buildings, or to so dispose them on the level that ordered proportion may be combined with beauty of vista, dignity of approach and emphasis with the charm of restrained variety, thus making of the scheme and of its site one whole design to the effect of which each part contributes its due share.



OLD COTTAGE, WITH PORCH AND ARBOUR, LETCHWORTH.



## DISCUSSION ON MR. UNWIN'S PAPER.

Mr. S. PERKINS PICK, *Past Vice-President*, in the Chair.

Mr. WILLIAM DUNN [F.], in proposing a vote of thanks to Mr. Unwin, said: I think it was a gentleman of very cynical humour who said that the ancient Universities were places for the conservation of learning. This Institute, however, does not exist for that purpose, but rather for the dissemination of learning, and I am sure no better means of doing it could be devised than by having meetings such as this, when those who have spent a long time in dealing with these problems put before us papers giving their experience for our consideration. Mr. Unwin was a leading member of that Committee which has prepared one of the most valuable reports on housing that I have ever read; it is issued by the Local Government Board. Every architect who is working on these problems should study that report. I had the pleasure of taking up your attention for about an hour myself only a fortnight ago, and for that reason I am sure you do not want to hear me longer than is necessary to-day; but I beg you to allow me this one word of thanks, for such thanks were never more deserved than to-night by Mr. Unwin for his very illuminating address.

Mr. S. BRIDGMAN RUSSELL [F.], seconded the vote of thanks and read the following remarks: It has been very inspiring to listen to Mr. Unwin. He has breathed forth a flame that should set fire to the dry tow of our imagination, and I hope we can keep it aglow till this scheme of National Housing is in full swing. It has been the privilege of some of us in this room to have worked with Mr. Unwin during the war. Among buildings which had to be carried out in a desperate rush houses formed a considerable proportion, and ranged from wooden huts and cottages to comparatively large brick houses. It has been our experience that as much thought is required for a cottage as any other building, and it is largely due to Mr. Unwin's efforts that the standard reached is so much higher than in pre-War days. There is evidence of this, not only in the recent issues of the building papers, but in the plans embodied in the Local Government Report on Housing. For that Report Mr. Unwin can justly claim the chief credit. There is every prospect that architects will come into their own and that municipal and other building authorities will show a sweet reasonableness in connection with the work of National Housing; therefore the suggestions in Mr. Unwin's paper should prove invaluable, especially if we see to it that our repertoires are packed with the right sort of stuff. In the carrying out of this housing work, I trust that this Institute will advise, so that it does not fall into the hands of a few syndicates that might be formed to exploit this opportunity at the expense of their fellow architects. Advisory architects could be selected to work in collaboration with the surveyors of building authorities in different centres in preparing their town planning schemes, and these

advisers distribute the architectural work in connection with each scheme among architects in the locality. This would prevent monotonous repetition of design in each township and stimulate a healthy rivalry between these men to produce their best in co-ordinated effort. There is also the matter of standardisation, which I fear is a bogey to many. An architect well known to the public has shown what can be done in this respect with toy stone building blocks, and I think we can do as well with standardised units in real houses. Even if it were desirable, time would prohibit general standardisation of all the different articles that will be required. Each maker or group of makers must standardise in their own factories; and as there are many of them in each trade, so will there be plenty of variety in choice. The main thing is to be assured that each is good, durable, simple, and adapted to its particular purpose. Time, naturally, has prevented Mr. Unwin from delving deeply into everything appertaining to cottages, but he has enunciated principles which are of special value to us, and we are greatly indebted to him.

Mr. H. HEATHCOTE STATHAM [F.]: Mr. Unwin referred to the necessity of placing the fireplace where there is a roof lighting or a light from the left-hand side. That is often neglected. I went carefully over the Hampstead Garden Suburb, and my recollection is that about three-fourths of the fireplaces in the rooms were in the worst positions for light, and had the lighting on the wrong side. There is another thing which I have been struck with in garden cities, the mistake of attempting what I call the "sham picturesque"; the use, for instance, of very small windows; the old cottages had small windows, and this is supposed to make the house look "cottage"; but they are not hygienic. And it has often occurred to me to wonder why, when we have made so much progress in the use of concrete steel, there is necessity for the high-pitched roof. In looking through the Letchworth houses I was struck with the inconvenience of the upper rooms owing to the use of high roofs. There were many rooms in which one could not stand upright next to the wall, while the central part of the ceiling was higher than necessary. It may be said that flat roofs are ugly. But there is much in the power of association; we may get used to them. I think that with flat roofs you are likely to get simpler and more commodious rooms upstairs than by the extensive use of high-pitched roofs and dormers. The point is surely worth consideration.

Mr. H. V. LANCHESTER [F.]: I think that if Mr. Raymond Unwin has not fired us to more definite efforts in this branch of our work, nothing will do so. I strongly appreciate the suggestion that we must visualise exactly what goes on in the cottage. In our training we are familiar with the necessity for analysis

of functions preparatory to the synthesis in our buildings, and it is only because we have had very little to do with the labourer and his cottage that we have neglected the same method of working there. We have done it for the country house, we have done it for the city office; but our plans for the labourer's house often show that we have not really understood the labourer's family, nor how they carry on their home life. It is not enough to imagine ourselves living in the cottage: we must know how the labourer wants to live, and how he does live. We must also try and blend with that how he ought to live. We want to give him a little hint from time to time so that he may improve his methods. At the same time I feel it is up to us to give him every facility to live a happy, comfortable life, and put whatever we know of real beauty into the cottage, so that the next generation shall grow up under better conditions than obtained in the past. I feel that we owe a considerable debt of gratitude to Mr. Unwin, and one or two fellow-workers of his, who have shown us so markedly the way in which we ought to move in regard to this matter.

Mr. MAURICE HULBERT [A]: May I add a word of thanks to Mr. Unwin for his very interesting and, as has already been said, inspiring paper? This subject is capable of infinite variety. Mr. Unwin has only been able to treat the subject in general terms. We must not forget the different classes of people for whom these cottages should be built. If you leave out entirely the London County area there are three districts where such houses would be required: (1) The thorough suburban, such as Acton and Hammer-smith; (2) the semi-suburban; (3) the rural. Each requires different treatment. The tendency is to show some very pretty semi-detached cottages which are only suitable for the outer suburbs or the country, but what are wanted are houses for the inner suburbs. There are three classes of people who inhabit what may be called weekly property: the clerk class, the skilled mechanic class, and the so-called unskilled class, though there are few forms of activity which do not call for skill. The requirements of these are somewhat different. The clerk class nearly always want a parlour; the skilled mechanic will probably want a parlour; but the labourer, whose wage is lower, does not usually want a parlour. But that is not all. We deal, generally, with the three-bedroom cottage, but that is only one of a number of types. Occasionally four bedrooms are required. There are two-bedroom cottages also, especially where they are owned by a municipality who can control what sized families shall live in them. And we must not forget the single couples who require only one bedroom, and the widow and other single woman who is living by herself. And in suburban districts certainly, if not in the semi-suburban, there should be a certain number of flats, especially for those people who want only two bedrooms, or one bedroom, a sitting room and a scullery. Those are, probably, best housed in flats. These

matters want to be gone into by architects employed by local authorities. I know the Local Government Board is chary about recommending the employment of architects, because the local governing bodies are extraordinarily jealous as to what they can and cannot do. If you want to set a local governing body against architects you have only to recommend their employment and they will ask "Why should we? We have an excellent surveyor." If that gentleman has a scheme given to him to work out he will not admit he does not know all about workmen's dwellings. The local governing bodies are very well-intentioned people, but they are ignorant when you approach them on a technical matter. The surveyor employs a draughtsman, and so the work is carried out. If public opinion can be built up for the profession we shall get these matters handled in a better way. I live at Ealing, and near me is a charming suburb called Brentham. It is a genuine result of the efforts of a group of working men who started, twenty years ago, to develop a scheme, and they have done it with extraordinary success. The owning company is a public utility society and pays 5 per cent. If anyone wants to see this kind of thing done as well as could be expected ordinarily they cannot do better than go to see this little garden suburb.

Mr. THEODORE FYFE [F]: Now is the time for all local authorities to recognise the sphere of the architect, and for architects connected with local bodies to remember their brother architects. They will never have the same opportunity again. I think I have never heard an abler paper than the one just read by Mr. Unwin, and I could not imagine a better one. It should make every one of us most enthusiastic on this question. The last speaker raised a very interesting point when he referred to the kind of house required by the clerk class, for we should not get into our minds the idea that the kind of houses under discussion is entirely for the labouring class as we understand it. The hitherto underpaid clerk has usually been as poorly housed in the past as anyone, and we want to raise his status as well as that of the labouring class. One hopes that not only the working-class house will be improved but the middle-class house as well.

The CHAIRMAN: I would like, before putting this resolution, to add my testimony to the very valuable paper which Mr. Unwin has given us this evening. Mr. Unwin has been a pioneer in this matter, and the extraordinarily useful work which he had done in this direction over a long period of years I am satisfied is now yielding good results. We are fortunate in having Mr. Unwin at the Local Government Board to give such an enlightened view, and pointing to what should be done in planning cottages. I agree entirely with the remarks made by Mr. Statham. We get accustomed to high-pitched roofs, and from the fact that we associate all picturesque views of our old villages with high-pitched roofs we are likely to be hide-bound. It is impossible to make

cottages of good appearance with an entirely flat roof, and a great deal can be done by even a 30° pitch such as one associates with speculative building. There are many advantages about a low-pitched roof, one being that you get the whole of your bedrooms square. The ordinary householder, I believe, prefers square rooms to those which are altered by the cutting away at the hips, and the rafters in that way coming near to the floor. We sincerely hope that the publicity given to this paper will induce authorities to recognise the importance of employing architects for this work, for those who know the difference between good and bad work also realise the value of the architect. In Leicester, my own district, we have succeeded in persuading the Corporation to allow private practitioners to carry out the work, and the same could be done in other districts by architects getting representation on the various urban, town and city councils. It is impossible for the Institute to regulate what should be done by local authorities, but if architects were represented on local councils much more of this work would get into the proper channels.

Mr. RAYMOND UNWIN, in reply: I thank you for the very kind way in which you have received my paper. I have taken great interest in cottage design since, as a young man, I spent some time lodging in a workman's house. I think Mr. Lanchester was right when he said we do not learn much about the life of the workman and his family if we merely take his cottage for a summer holiday, I agree with Mr. Russell that it is an ideal arrangement for a big housing scheme if you can have some architect in an advisory capacity who, in a general way, co-ordinates all the work, and then have a number of architects engaged on each scheme, with individual parts allotted to them. The advisory architect would deal with the lay-out of the scheme and maintain the unities; the others would bring in their variants on the theme—to use a musical analogy. Mr. Statham spoke about the sham picturesque effects in the garden city. Being one of those who have had to struggle against this tendency, perhaps I may say that this epidemic was not due to the Garden City movement, but to the fact that during the past half-century the small house had become such a deplorable "box with a slate lid" that there was a violent reaction against it; anything which broke away was regarded by the tenants as something desirable. I think we realised that in our garden cities we were influenced by reactions which went too far. There is a place for the low-pitched roof where you want to use a material like slate. We have many examples of good design and grouping which can be worked out on those lines. I should be sorry to see a low pitch adopted for tiles, however; they would not so treated constitute a weather-tight roof. A good deal of the charm of our country is due to variety springing from different materials being used locally; and that, coupled with their suitability, may

guide us as to treatment. I believe there is a function for the architect to help the tenant to improve the life in his house if one learns something about the life the tenants lead, and so plan the house as gently to urge them to develop it on good lines. I have to-day touched on a small section of the subject only; there are differences in the requirements of the clerk, the artisan and the labourer; but you must not assume that the labourer does not want his parlour, as that idea will lead you astray. Many labourers are particularly anxious for a parlour, more anxious than many clerks, a class among which there will be more tenants who would rather have one big living room, and who are content to do all the work in the scullery, in spite of the second fire. In the three types I have set out there is provision for different modes of life. I agree we must have a proportion of four and even five bedroom houses; those can often be provided at very little extra cost if, when you have a sloping road, you build a group with a level roof and get your extra storey in the house at the bottom end. It saves the repeated steps in the roof; you step the floor level, and you have, on the low cottage, height enough for the extra storey of bedrooms. To know that there are a certain proportion of four and five bedroom houses to provide is a great help to the architect in his grouping. With regard to two-bedroom houses, there are in the country already such numbers of cottages which are defective in accommodation that the urgent need is for good cottages of three bedrooms so that we may raise the standard of the home. We must concentrate on that first. Many of the people who, for some reason, want these smaller cottages will find them available when those who are able to do so move into the better cottages. There will be cases in which it is better to build special houses for old couples, with very little accommodation, which require little work to keep going; also for newly married couples. But, for the time being, the urgent need of the country is for houses with three and four bedrooms. I was very glad to hear one speaker refer to the Ealing suburb of Brentham which Mr. Vivian has carried out. A considerable contribution to the solution of this problem has been made by the co-partnership and other public utility societies. I hope much past work is now about to bear fruit, and that architects will be asked by the local authorities to carry out their work on a good standard which has been shown to be practicable, and that we shall do our best to see that the carrying out of the work which is to make up the lee-way in the shortage of houses will lift housing on to a higher plane.

Mr. HAYDN BROWN, L.R.C.P., L.R.C.S., writes:—Having had occasion to visit dwellings of all degrees of desirability as a health adviser of many years' standing, I am able to affirm that the "question of the bath" is asked most emphatically by some householders themselves. It has arisen often enough to be quite important for all propagandists, designers,

builders and capitalists to consider. It is not going to be found quite easy in the near future to economise space and build houses that shall entirely satisfy the majority of tenants and at the same time make a little profit for the builder.

We have to determine whether there is any way of satisfying all the discontented, abnormal, misunderstanding, misinformed, misemploying dwellers in small abodes. The final answer comes out of the great truism, that if you show the humble cottager the best additional uses of a bath, explaining other most convenient and eminently useful purposes to which it may be put, instead of the rough, filthy, outrageous uses to which it has been put in the past, you will then quite easily silence every complainant, whether he be reconstructionist, capitalist or cottager. You will also succeed in solving that subsidiary problem as to whether a bath should be upstairs or down.

It has always been my contention that there was much waste of space in many houses by both the bathroom and the bath—especially the latter. Chairs you could sit on, tables you could put things on; but a bath you could do nothing with for most of the time. It is the Great War that has made the world of workers think as they never thought before, and economise as they never expected to be obliged to do. By a comparatively simple process a bath can be adapted as a most comfortable bed for one person. When not used as a bed or a bath it becomes a bench for any day-time purpose that suggests itself, as a play table for a child, or work table for a girl given to dress-making or photography. Give full and happy use for articles, and depend upon it they will not be misused—excepting by lunatics. In future the bath will be more wanted by all cottagers and small house tenants—not for one purpose only, but for all three named alike. The problem has been solved simply, expediently and cheaply by one who is an experienced domestic economist as well as being an astute mechanic. The following is his description: "A piece of strong fabric, sail cloth or canvas, about 6 ft. by 2½ ft., is stretched between two selected poles, which are kept in position over the top of the bath by two stout cords passing from one pole to the other, under the bath, and merely tightly hooked in position." I have tried this simple device, and it acts absolutely perfectly, making a most readily-adjusted, instantly-removed, perfectly-comfortable bed—of course, with the addition of blankets and sheets and a pillow. After use as a bed, the two ropes are unhooked from one side pole, then the two poles are rolled together in the fabric and stored flat against the wall by the side of the bath or anywhere out of the way. If a bench is wanted, a flat ironing board can be placed upon the canvas; or if this does not already exist in a house, a single or jointed oblong of tri-ply or other wood will serve the purpose.

The equipment, I believe, has been provisionally protected at the Patent Office, and will shortly be on the market.

### MATTHEW GARBUTT [F.].

The Editor has favoured me with an invitation to contribute a "short appreciation" of my valued friend and colleague. I respond the more readily from a sense that only an intimate friend could give a just estimate of Matt. Garbutt's many sterling qualities, and I happen to be one of the privileged few—outside his family circle—brought into closest contact with him in his later years.

Without exactly shunning the limelight of publicity, Garbutt was apparently too preoccupied in following out his ideals to worry himself about his own share in the results he aimed at. Of these ideals the outstanding were undoubtedly the keenest sense of duty, and an ever-readiness to hold himself at the service of others. For what the profession and the world term success he seemed to have little ambition; perhaps this was as well, seeing that his particular characteristics were hardly calculated to achieve it. He begrudged neither time nor labour if some principle were involved, or if the success of a work depended on the perfection of its details. Though he could ill afford to ignore the question of remuneration, this consideration was never allowed to obtrude itself until he felt that he had given the best that was in him. Then, too, he would at any time put aside his own work to respond to the appeal of the many who applied to him in their difficulties; while the records of the Institute, and kindred bodies with which he was associated, testify to the amount of time devoted to other than his own personal interests. To make up for such interruptions he would draw uncomplainingly on the hours that should have been devoted to recreation or sleep. The consciousness that such hours were available undoubtedly led him, as time went on, to make increasing demands on them, and on his robust constitution, and so to shorten his life.

Our friendship began, like so many another, at the A.A., where we both took an active part in the work of the Discussion Section, and we served on the committee together. It only ripened into intimacy when his family—with whom, as he never married, he always lived—migrated from St. John's Wood and established themselves in Putney, within a stone's throw of my own home. Thenceforward he was a constant visitor, always ready to lend a hand in whatever was going on. Particularly successful with children, our own owed many an evening's amusement and instruction to his facile pencil, for he was an indefatigable and clever sketcher in pencil and water-colour alike.

On the termination of his partnership with Max Clarke he came to share offices with F. W. Marks and myself in Staple Inn, he and Marks finding mutual interests in their educational experiences under Dr. Abbott at the City of London School. Thus associated with him in his daily work, one could see how his temperamental thoroughness militated against wide and independent practice; for clients, while



demanding that their work shall be executed with all possible skill, cannot always afford to wait while an ultra-conscientious adviser is personally settling every point of detail. In arbitrations, where time was not of the first consequence, his faculties found fuller play. Both sides rarely failed to pay tribute to his painstaking methods, except, perhaps, when one of them, in the haste of making up a claim, inadvertently included some out-of-sight items, which personal investigation failed to reveal.

His practice developed mainly as a consulting engineer, and in consequence much of his best work was as completely hidden from the public eye as was the material in which it was carried out. This was the more to be regretted as he had considerable artistic ability, as was shown in the few buildings he had the opportunity of erecting, and in various designs for competitions. His knowledge of materials, especially of metal work, was founded on practical experience obtained in the shops, a training which he strongly held should form an essential part of an architect's education. For mere book knowledge he had little respect, and was impatient at the mental confusion induced by some of the standard text books, especially those on mechanics, a subject which he contended could be presented quite simply, provided that the elements (*e.g.*, the principle of the lever) were once clearly understood. That this was possible he demonstrated in the case of several befogged student friends, who after a few short lessons found that "stresses and strains" were by no means the unintelligible subject they had considered them. For their benefit he had jotted down rough notes which he always intended to develop with other aids to students, but unfortunately the leisure to do so never arrived.

Out of his workshop experience and actual working of metal grew an intense admiration for good craftsmanship, and this in turn developed a passion for Japanese and other Eastern metal work. In the collection of choice specimens of such work he invested the bulk of his spare resources. Fortunately, he commenced this hobby before the present fashion for collecting such specimens began, so that it proved not only fascinating but profitable. His knowledge of the subject assured him a welcome into the congenial atmosphere of the Japan Society, of which he became Member of Council and Librarian, and papers read by him there on "Japanese Armour" and "Military Works in Old Japan" were considered quite authoritative on these subjects. His interest in matters pertaining to the East included India, of whose religion, arts and native customs he had a peculiarly intimate knowledge. This he found opportunity of turning to account when the Indian contingent came over at the Coronation, and he was able to smoothe out many a difficulty for his Indian friends, who seemed to understand our home officialdom as little as apparently it understood them. Of military history he was always a keen student. In his younger days he served enthusiastically as a volunteer, an early

training which, when he joined up as a "G.R.", he had some difficulty in unlearning to comply with modern methods.

In this tribute to his memory no effort has been made to chronicle Garbutt's strictly professional career, but I have attempted rather to record his many-sided personality as it appeared to his friends. A well-known poetess has described the world as consisting of two classes of people, "the people who lift and the people who lean," and gave it as her opinion that "there is only one lifter for twenty who lean." Certainly Garbutt was a lifter, and if, in the lifting, he attempted more than his strength allowed, he deserved well of his fellows, and we cannot begrudge him an earlier entering on the long rest he so persistently denied himself here.

HERBERT A. SACHELL [F.].

Matt. Garbutt was elected an Associate of the Institute in 1892 and a Fellow in 1906. He had been an active and most valued worker for the Institute during the whole of his twenty-six years of membership. Many years ago he rendered valuable assistance in the Brickwork Tests carried out by the Science Standing Committee, which he afterwards served as Hon. Secretary. He had been a member and Hon. Secretary of the Practice Standing Committee, and had lately devoted much time and thought to the revision of the Form of Building Contract. He had also been for many years a member of the Board of Examiners, and had acted as an Examiner under the Board of Architectural Education and also in the Statutory Examinations. His loss will be severely felt by the Institute. As will be seen from his article in the JOURNAL for 5th February, 1910, Garbutt had made a careful study of all that is known of the Mausoleum at Halicarnassus. A convincing reconstruction of that wonderful monument might have been pieced together from his researches. The Library possesses a notable example of the care and time he would devote to any task he took up in the Album of Micro-Photographs of Building Stones which he produced in collaboration with Mr. Alan E. Munby. The descriptive part of the work is in manuscript—a beautiful specimen of the penman's art—and the whole work is most tastefully planned and arranged.

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#### ROBERT WILLIAMS.

*Associate 1887, Fellow 1896, died 16th October 1918.*

There must be many members of the Institute better qualified than myself to write an appreciation of Robert Williams, but there is one aspect of his life in Cairo that demands some tribute from those of us who are serving with the E.E.F.

A list of his buildings and of his published works, though indicating the range of his interests, does not reveal his wonderful zeal for reform, nor the charm of his personality. Soon after coming to Egypt, nearly three years ago, I learned that there was an old

architect in Cairo who extended a hand to every young soldier-architect exiled from home. But it was not until a year ago, when I was stationed near Cairo myself, that I realised just what that hospitable offer implied.

There was a certain thrill—after two years of separation from one's work—in merely walking into an office littered with working drawings and smelling of tracing paper. Even the drawing-boards and set-squares had a glamour of their own, and the splendid collection of architectural books was a welcome change from military manuals in barracks and bivouacs. But the little man who came forward to greet me, a perfect stranger, lit up the room with his burning enthusiasm for his work and his open-handed sympathy with all architects in khaki. He was usually dressed in a painter's smock and wore a cap indoors. He was very deaf, but wonderfully active and alert. As a young man he had been a keen volunteer, and, being unable to take part in the War on account of his age, he devoted much of his time and his money to making the life of soldiers in Egypt, especially those who were architects, as pleasant as possible. He offered to carry out shopping commissions for men in the distant trenches, he lent his choicest books to any who were interested in such things, he gave his professional services to the Y.M.C.A. in designing canteens, he took parties of soldiers round his favourite mosque—Ibn Tulun—and shortly before his death he consulted me about the possibility of arranging a dinner in Cairo where civilian architects in Egypt and soldier-architects in the army could foregather round a common board. In his small flat in St. David's Buildings, the great block of business premises that he himself designed, he used to welcome not only officers and men (with a praiseworthy disregard of rank) to any meal that was on the table, but he even found sleeping accommodation for tired and hungry soldiers who had arrived in Cairo on leave from the front and were unable to find a bed.

But though his enthusiasm for reform often took the practical shape of helping lame dogs over stiles, he had all the consuming ardour of the idealist. Copies of *Justice* lay on his table. Everyone who was poor or oppressed was sure of his sympathy. He regarded the Egyptians as fellow-men, worth educating and capable of better things. His zeal for housing reform and his work in that direction when a member of the L.C.C. are well known. He seemed curiously out of place in the *blasé* social scheme of fashionable Cairo with his simple goodness and his devotion to his ideals.

But, above all things, he was an architect. He loved to talk "shop" to any member of his profession who was available, and he was completely engrossed in any work he had in hand. He had a remarkably thorough knowledge of all aspects of building construction, having worked at a bench himself in early life, and in Egypt it was his custom to instruct the often stupid native workman by demonstration with his own hands. But this practical knowledge was only

part of his equipment as an artist. He was no long-haired *poseur*, but a genuine craftsman. And at all times he held the dignity of his profession and of his Institute very high. Egypt is the home of "backsheesh," the place where every man has his price. Even an Englishman is not always proof against local conditions in Cairo, and professional etiquette there is not so strict as in London. But there was no question of "backsheesh" with Robert Williams. He had high ideals and he lived up to them.

The artistic temperament is held by some to be no more than an excuse for loose morals, sloppy habits, a disregard for all one's obligations to one's fellows, and, in general, for a lazy and selfish life. But if it means blind devotion to one's work, an unselfish striving to do one's work well regardless of material gain, and if it also carries with it a high ideal of life, then Robert Williams was an artist indeed, and our profession has lost by his death a remarkable and a lovable man.

M. S. B.

MR. MAURICE B. ADAMS writes:—

With regard to the death of Robert Williams, recently announced, I owe to his memory an acknowledgment of my appreciation of his services when acting as my clerk of works at the time I was engaged in rebuilding, re-roofing and renovating parts of Blickling Hall, near Aylsham, in Norfolk, during the 'eighties for the late Marchioness of Lothian. An extensive and difficult scheme of drainage was carried out from my plans, including a water-tower erected in the park on a knoll covered with big trees. The slight difference available in the levels of the water-logged site on which the mansion stands were in some points only a matter of a few inches in the old culvert and its main outlet passing under the lake. These provisions had to be retained as a by-pass in case of temporary stoppage of my pumps at any time, so as to provide for any harking back of the sewage in that contingency, which, however, never happened. In consequence of this complicated character of the work the utmost care had to be exercised in adjusting the levels. The late Mr. Rogers Field, as a matter of fact, prior to my being employed, had reported on the problem involved and declined to undertake the job unless the trustees allowed him *carte blanche*, so it is clear that much depended in carrying out my scheme upon personal supervision on the spot. My friend, the late J. P. St. Aubyn, recommended me Robert Williams, whom I found very competent and in every way reliable as clerk of works. The success of this drainage work, in particular, was to no small degree due to his care and loyalty to my instructions; therefore, with your permission, I should like to place on record this little recognition. It will be remembered that I read a paper before the Institute on this work done at Blickling. The paper, with plans and other illustrations, appeared in the *JOURNAL* for 15th January 1894.

### MAJOR JAMES MITCHELL WHITE HALLEY, R.E.

Major J. M. W. Halley, R.E., whose death in action on the 24th October was recorded recently in the JOURNAL, was elected a Fellow of the Institute in 1914. The following notice of his career appeared in *The Times*:—He was born in Glasgow in 1877, educated at Hillhead High School, and after architectural training with Mr. Leiper, he came to London, where he worked with Messrs. Niven and Wigglesworth, and afterwards with Mr. Mervyn Macartney, architect to St. Paul's, with whom he had been associated for over ten years. In the first few months of the war he received a commission in the Royal Engineers, where his practical experience and professional ability, added to his resource and courage, marked him for promotion in that highly professional branch of the Service. He was gazetted as Major a few months ago. He was wounded in 1917 at Arras. Like most architects at the beginning of their career, Major Halley's chief designs were never carried out. He entered for many competitions, and was highly placed in the competition for The Hague Palace of Peace, and was on the "short list" for the Mitchell Library at Glasgow. Under Mr. Macartney, with whom he was much in sympathy, he worked on the Chapel of St. Michael and St. George, in St. Paul's Cathedral. He had a genuine feeling for early English Renaissance work, and much real scholarship. He wrote a good deal for the architectural Press, particularly for *The Practical Exemplar of Architecture* and the *Architectural Review*, and was engaged on a book on Piranesi when the war put an end to his work at home. His essay on "The Rebuilding and the Workmen of St. Paul's Cathedral," which received the R.I.B.A. prize in 1914 [published in the JOURNAL, 5th and 19th December, 1914], added much to our knowledge of craftwork in that period. He was shot by a sniper on the bank of the Scheldt, where he and another officer had crawled to prospect for bridging the river. "He never asked his men to do more than he did himself." His body was recovered, and four pipers from a kilted battalion played "Flowers of the Forest" at his burial. His brother-officers erected a cross made from wood taken from the oak beam in an old windmill. One of them wrote:—"This we thought appropriate, for the Major was a great admirer of these characteristic Flemish structures."

#### Books Received.

- Through Egypt in War Time. By Martin S. Briggs, Author of "Baroque Architecture," etc. Illustrated. 80. Lond. 1918. 21s. net. [T. Fisher Unwin.]
- Reinforced Concrete Construction. Part I, with examples worked out in detail for all Types of Beams, Floors, and Columns. By M. T. Cantell, Licentiate R.I.B.A. 2nd edit. 80. Lond. 1918. [E. & F. N. Spon.]
- Mnemonic Notation for Engineering Formulas. Report of the Science Committee of the Concrete Institute. With Explanatory Notes by E. Piander Etchells. 80. Lond. 1918. [E. & F. N. Spon.]
- Celle Trichore and other Christian Antiquities in the Byzantine Provinces of Sicily with Calabria and North Africa, including Sardinia. Vol. II. Illustrated. By Edwin Hanson Freshfield, M.A., F.S.A. Roy. 80. Lond. 1918. [Rixon & Arnold, 29 Poultry, E.C.]
- Commission of Conservation, Canada.—Fire Waste in Canada. By J. Grove Smith. Royal 80. Ottawa, 1918.

### CORRESPONDENCE.

#### R.I.B.A. Finance.

Royal Insurance Buildings, Liverpool,  
January 6th, 1919.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—The letter from Mr. Sydney Perks, published in the current issue of the JOURNAL, appears to me so materially to misrepresent the position that I desire to present another view.

I would wish to emphasise that the Institute is a National not a London corporation, and I believe that the more it is brought in contact with the Provinces the more beneficial it is likely to prove to its own membership and finances, to the interests of the profession and to Architecture generally.

Mr. Perks writes:—"Last year the R.I.B.A. spent £399 9s. in contributions to Allied Societies (excluding the allowances to their Presidents)."

A footnote to the balance-sheet for the last year shows that the so-called contribution to Allied Societies was for the definite purpose of being placed to the credit of individual members of the Institute. The simple result of the arrangement given in Bye-law 82 is that the subscription to the Institute of a Provincial member is three-fourths that of a Metropolitan member, for obviously it would scarcely be just if in addition to supporting his local Society a Provincial member were required to pay a full subscription to the Institute.

The truth is then that the R.I.B.A. does not make any contribution to the funds of the Allied Societies and it does not finance them in any way whatever.

Mr. Perks's mention of "allowances to their Presidents" is vague. A President should he happen to be an elected member of the Institute Council may receive a part of his travelling expenses when attending the Council Meetings, which are necessarily held at the Institute premises in London, but any member attending from a long distance to do the Institute's work should not thereby be placed at a monetary disadvantage.

The suggestion as to the Architectural Association raises another question. Approximately one-half of the Institute's income may be said to come from the provinces. If it is thought right to make a grant on behalf of architectural education in the Metropolis, then it would appear that a similar grant is due to the Provinces. Whether the School of Architecture of the University of London or the School of the Architectural Association should receive preferential consideration is another matter.—Yours faithfully,

E. PERCY HINDE [F.].

President of the Liverpool  
Architectural Society (Incorp.).



9 CONDUIT STREET, LONDON, W., 18th Jan. 1919.

## CHRONICLE.

### Building Restrictions.

The following letter from the President appeared in *The Times* of the 20th December :—

19th December, 1918.

SIR,—Would you kindly permit me through your columns to call public attention to a proposal of the Ministry of Reconstruction which threatens to place a serious check upon the speedy restoration of the building trade throughout the country to a normal condition?

During the last two years building operations have been controlled and regulated by a system of licences which has prevented the employment of labour and material for any other purpose than the barest necessities. This has been willingly acquiesced in by architects and by the public generally as it was recognised to be an important contribution towards the successful prosecution of the war. It has entailed very great hardship upon those concerned, particularly upon architects, who have had to submit to an entire cessation of their practice and means of livelihood.

It is now, however, seriously proposed to continue the control under very much the same regulations (administered by newly constituted authorities) for an indefinite period. No building operations exceeding £500 in value are to be permitted unless a permit has been previously obtained, thus perpetuating control instituted solely for a specific object which has now been attained.

The reason put forward is an anticipated shortage of certain materials, which, notwithstanding the exhaustive enquiries that have been made, remains highly problematical. In any case, the provision of materials for urgent work of national importance can quite easily be secured by methods not involving a general paralysis of the whole building trade.

The first essential for the restoration of the building industry is the stimulation of production by every possible means, and the only really healthy method of securing this is through an absolutely free and open market regulated by the natural play of supply and demand. This appears to offer the shortest cut to normal conditions and to involve the minimum of dislocation and hardship, whereas the proposed continuation of control cannot fail to retard recovery and to lead to many unforeseen evils.

The Royal Institute of British Architects on behalf of the architectural profession makes the strongest possible protest against the course proposed, and hopes to have the support of all those interested in building throughout the country.—I am, Sir, Your obedient Servant,

HENRY T. HARE, *President R.I.B.A.*

The Council at their meeting of the 16th December having passed a resolution that a request be sent to the Government asking on behalf of the architectural profession that building work generally should be allowed to proceed on normal and unrestricted lines, the following letter was addressed to the Minister of Reconstruction :—

SIR,—The Council of the Royal Institute of British Architects view with grave concern the proposal of the Ministry of Reconstruction to continue for an indefinite period the system of licences which has practically suspended building operations throughout the country during a period of two-and-a-half years. Since the outbreak of war the practice of Architecture has been in almost complete abeyance and architects have suffered grievous hardships, in the case of the vast majority their means of livelihood being entirely cut off. Architects have endured their hard lot uncomplainingly, feeling that it was essential that the whole energy and resources of the country should be concentrated on the prosecution of the war. With the restoration of Peace, however, that necessity no longer exists, and they earnestly hope that the burden laid upon them will be removed at the earliest possible moment. It is pointed out that the continuance of the present system of control menaces with ruin the building and allied trades which, with the return of the workers to civil life, are so necessary to the reconstruction and reorganisation of the national industries.

As regards materials, the Council of the Royal Institute are convinced that the abolition of all control and the establishment of a free and open market regulated by the natural play of supply and demand would be the surest means of stimulating production.

On behalf of the architectural profession of the country, the Council of the Royal Institute most respectfully urge that building work generally should be again allowed to proceed on normal and unrestricted lines.—I am, Sir, Your obedient Servant,

G. NORTHOVER, *Acting Secretary.*

A reply was received from the Ministry a few days later stating that the regulation requiring licences to build had now been cancelled and that a notice to this effect had been issued to the Press.

### Memorial Service for Architects fallen in the War.

A Memorial Service for the members of the architectural profession who have fallen in the Great War was held under the auspices of the Institute at St. George's, Hanover Square, on Wednesday, 4th December. The service was largely attended, among members of the Institute present being Mr. Henry T. Hare, *President*, Mr. Reginald Blomfield, R.A., Mr. Paul Waterhouse, Sir John Burnet, R.S.A., Sir Ernest George, A.R.A., Sir Edwin Lutyens, A.R.A., Sir Henry Tanner, Mr. John W. Simpson, Mr. E. Guy Dawber, &c. Sir Aston Webb was represented by his son, Major Maurice Webb, D.S.O., M.C., R.E., then just returned from Palestine.

The order of service, which began with the hymn "O God, our help in ages past," included the singing of the 90th Psalm, the Lesson from the Book of Wisdom, iii. 1-10, and the Liturgy of St. Chrysostom,



sung kneeling to the Kieff Chant and beautifully rendered by the church choir. A brief address was delivered by the Rector, the Rev. F. N. Thicknesse (brother of Mr. P. C. Thicknesse [F.], of Liverpool). Opening his remarks with the text "They looked for a city that hath foundations whose Builder and Maker is God," they had met, he said, to commemorate the fact that many members of a great profession, eminently peaceful and far from the associations of war, had at the call of duty come forward and laid down their lives for their country. In that fact they had a very striking illustration of the spirit that had been among the people during the war. Members of the architectural profession had left their homes to take part in the struggle on land, on sea, and in the air; they had served in all branches of the services—the Engineers, Artillery, Cavalry, Infantry, Army Medical and Army Service Corps, and also in the Navy. They had served wherever the British arms had won such glorious fame—in Belgium, France, Italy, and Serbia, in Gallipoli, in Palestine, in Mesopotamia, and in Africa. Some 150 of them, perhaps many more, had laid down their lives for their country's sake. Those present had gathered together to express their boundless reverence to them for what they had done, and the more they examined into their sacrifice the more proud they were to think that they might call them "brethren," and the deeper was the humility to which they were moved by their example.

After the Blessing, "The Last Post" and the "Réveillé" were sounded by the drummers and buglers of the Grenadier Guards, by the kind permission of Colonel Sir Henry Streatfeild, C.B. The service concluded with the singing of the National Anthem.

#### Special Election to the Fellowship.

The Council, at their meeting on the 20th January, in the exercise of their powers under the proviso to Clause 2 of the Supplemental Charter 1909, unanimously elected to the Fellowship of the Royal Institute, Major Maurice Webb, D.S.O., M.C., R.E., Past President of the Architectural Association.

#### House and Town Planning Exhibition, City Art Gallery, Leeds.

The Exhibition now being held at the City Art Gallery has been got together by the Leeds Civic Society with the co-operation of the Town Planning Institute in London and the Garden Cities and Town Planning Association, London, with the additional local assistance of the following bodies: the City Engineer's Department, representing the Improvements and Developments Committees of the Leeds City Council; the Leeds and West Yorkshire Architectural Society; the Leeds Women Citizens' League; the Thoresby Society; the City Free Library and Art Gallery Committee; the South Yorkshire Civic Survey, and the Leeds Builders' Association.

The object of the Exhibition is to make the public acquainted with the scope of town planning schemes, and proposals and plans for the lay-out of the building land and properties acquired for this purpose.

Illustrating these town planning schemes are local plans for the development of the Middleton and Hawksworth Wood areas. The neighbourhood of London and the provinces are represented by a great variety of maps and plans—among others the Hampstead and Golder's Green Suburb, the Northwood Ruislip scheme, Port Sunlight, New Earswick, near York, Letchworth, Bournville, and others too numerous to mention.

Following this department, a great variety of plans and designs for workmen's cottages specially designed for present and future Garden City Colonies are exhibited, in which the Leeds and West Yorkshire Architectural Society is well represented by means of plans and exterior views submitted by local architects.

In addition to these, a most valuable collection of photographs is hung in the North Gallery, showing views of admirably planned and designed cottage houses charmingly grouped in country surroundings at Port Sunlight, Bournville, Hampstead, Letchworth, New Earswick and elsewhere, such as it is hoped will be models for those built in the new Garden City Colonies about Leeds.

In contrast to these houses, on a screen in the East Gallery is to be seen, contributed by the South Yorkshire Civic Survey, a group of plans showing the evolution of the "Back to Back" artisan's house as built in Leeds during the last 70 years.

Some models are exhibited, including one of a block of four cottages built by Messrs. Rowntree and Co., at New Earswick, which have a flat concrete roof. A charming group of cardboard models of houses executed by Mr. E. J. Dodgshun, F.R.I.B.A., occupies a glass case, and another case contains a model of a couple of houses made by Messrs. Bassett-Lowke, of Northampton.

The interior fittings of a model artisan's house have received the special attention of the Leeds Women Citizens' League, and under their auspices a full-size model of a working scullery has been fitted up with the best and most approved modern appliances. Numerous firms in the city have contributed examples of the most recent types of cooking ranges and various labour-saving appliances.

A popular feature of the Exhibition is the model of a children's playground, a copy to a small scale of a playground fitted up and presented by Mr. Charles Wicksteed to the Public Park of Kettering.

Leeds in the olden time is shown by a series of drawings and photographs of old buildings, contributed by the Thoresby Society, and some ancient maps of the town have been lent by the City Free Library Committee.

Finally, examples of building materials of modern make are exhibited by the Leeds Master Builders' Association.

#### MINUTES.

At the Third General Meeting (Business) of the Session 1918-19, held Monday, 2nd December 1918, at 5 p.m.—Present: Mr. Henry T. Hare, President, in the chair: 19 Fellows, 7 Associates, and 2 Licentiates—the Minutes of the Meeting held 18th November were taken as read and signed as correct.

The President announced that since the last meeting intimation had been received that the following members had been killed in action:—2nd Lieut. Gerald Morton Dunn, R.G.A., Associate, elected 1912; Lieut. William Harold Williams, R.G.A., Licentiate; Private W. J. Lowrie, Seaforth Highlanders, Student.

On the motion of the President it was Resolved that the Institute's deepest regret for the loss of these members be



entered on the Minutes, and that a message expressing members' sincerest sympathy and condolence be forwarded to their nearest relatives.

The decease was also announced of Norman Clayton Hadlow Nisbett, *Associate*, elected 1885.

The following candidates were elected by show of hands under By-law 10:

#### AS ASSOCIATES (64).

[Except where stated that the candidates have passed the Final or Special Examination, the whole of the candidates are serving with His Majesty's Forces, and, being duly qualified, have availed themselves of the temporary concessions granted to students so serving.—See Special Regulations, JOURNAL for March 1918.]

ADAMS: WILLIAM NASEBY [S., 1908], Liverpool.  
 BAGENAL: HOPE [S., 1913].  
 BARROWCLIFFE: ARNOLD MONTAGUE [S., 1913], Loughborough.  
 BLYTH: CHARLES KYDD [S., 1912].  
 BOWER: ALBERT EGERTON LANCER [S., 1905], Liverpool.  
 BRADSHAW: HAROLD CHALTON [S., 1913], Liverpool.  
 BROAD: MALCOLM CHARLES [S., 1912].  
 CHAIKIN: BENJAMIN [S., 1907].  
 CORKILL: LAURENCE LAVERY [S., 1908], Isle of Man.  
 DANIEL: THOMAS LLEWELYN [S., 1915], Essex.  
 DARTNALL: JAMES AMBROSE [S., 1914].  
 DAVIS: SYDNEY WILLIAM [Special War Exam.].  
 DICKSEE: HAROLD JOHN HUGH [S., 1913].  
 DUCKWORTH: ALFRED [S., 1913], Fleetwood.  
 EVANS: THOMAS CWMANNE [S., 1912].  
 FAREY: CYRIL ARTHUR [S., 1909].  
 FILKINS: EDWIN WILLIAM [S., 1913].  
 FINCHAM: EDWARD [S., 1910], Colchester.  
 GARRETT: SIDNEY COLSTON [S., 1911], Hove.  
 GASK: JOHN HAROLD [S., 1904], Bournemouth.  
 GRANT: JAMES LINDSAY [Special Examination 1918], Northenden, Cheshire.  
 GRAY: ANDREW [S., 1915], Hertford.  
 HARRISON: HARRY ST. JOHN [S., 1914].  
 HAYS: JOHN WILSON [S., 1905], Wingate, co. Durham.  
 HEALEY: FRANCIS HURST [S., 1905], Bradford.  
 HENDRY: MORRISON [S., 1913], Aberdeen.  
 HOLDEN: WILLIAM [S., 1910], Grange-over-Sands, Lancs.  
 HORSBURGH: ARTHUR LINDSAY [S., 1912], Farnborough.  
 HOWGROFT: GILBERT BURDETT [S., 1913], Oldham.  
 HUDSON: PHILIP SIDNEY [S., 1917].  
 HUTTON: ARTHUR JAMES SCOTT [S., 1918], Edinburgh.  
 JAMES: CHARLES HOLLOWAY [S., 1912].  
 KEY: WILLIAM DONALD [S., 1914].  
 KNIGHT: SHIRLEY [S., 1913].  
 LAVENDER: ERNEST CLIFFORD [S., 1913], Walsall.  
 LIDBETTER: HUBERT [S., 1905], Cockermouth.  
 LISTER: HAROLD ALFRED [S., 1912], Shrewsbury.  
 LONE: REGINALD WILCOX [S., 1911].  
 MACGREGOR: JOHN ERIC MILES [S., 1918].  
 McLACHLAN: CHARLES [S., 1910, Final Exam. 1918].  
 McLEAN: GEORGE [S., 1911], Portmadoc, N. Wales.  
 MADDOX: FRANK MORRALL [Special Examination 1918], Stoke-on-Trent.  
 MULLINS: GEOFFREY THOMAS [S., 1914].  
 NAPIER: JAMES [S., 1915], Port of Menteith.  
 PARKIN: WILLIAM GORDON [S., 1913], Johannesburg.  
 PARNACOTT: HORACE WALTER [S., 1906].  
 PHILP: ARTHUR THOMAS [S., 1915], Boscastle.  
 PLATTS: PERCY OATES [S., 1908], Wakefield.  
 PRESTWICH: ERNEST, M.A. [S., 1912], Leigh, Lancs.  
 RATCLIFF: FRED [S., 1910], Bamford, Derbyshire.  
 ROBERTS: EVAN WENDELL [S., 1914, Final Examination 1918], Swansea.  
 ROWNTREE: COLIN [S., 1911].  
 SAMUELS: EDW. PERCY PROCTOR [S., 1907], Llanfairfechan.  
 SAXON: FREDERICK CHARLES [S., 1913], Rochdale.  
 SHOOSMITH: ARTHUR GORDON [S., 1908], Bournemouth.  
 SOISSONS: LOUIS EMANNUEL JEAN GUY DE SAVOIE CARIGNAN DE [S., 1913].

STEVENSON: RAYMOND CROISDALE [S., 1918, Special War Exam.].

THOMSON: JOHN STEWART [S., 1914].

TOMLINSON: LAWRENCE DIGBY [S., 1913], Essex.

TUBBS: GRAHAM BURNELL [S., 1917, Final Exam. 1918].

VERNON: GEORGE [Special].

WALLACE: ROBERT STUART [S., 1913].

WHITEHEAD: PERCY [S., 1912], Oldham.

WILLSON: ERNEST [S., 1911, Final Exam. 1914], Blackburn.

The nomination as Hon. Fellow of Lord Leverhulme [Hon. A.] was announced.

It was announced that the following Students serving with H.M. Forces who, being duly qualified, had availed themselves of the special concessions announced in the JOURNAL for March 1918 had been nominated for election:—As Associates (8): Walter James Brown [S., 1912]; Reginald Rayner Christien [S., 1905]; Frank Clemes [S., 1911]; George Alan Fortescue [S., 1918]; Joseph Rashbrooke Keyle [S., 1914], Birmingham; Alec Lowe Macmillan [S., 1909], Southport; Arthur Rylatt [S., 1911], Hull; Ronald Victor Taylor [S., 1911], Southport.

The President, having read a Paper dealing with the unsatisfactory state of the law relating to the acquisition of light, and read also the terms of a proposed Bill to amend the law, went on to move, in accordance with notice, that the Council be authorised to take such steps as may be possible to secure the passing of the Bill into law as early as could be arranged.

The motion was seconded by Mr. Walter Cave [F.].

An amendment by Mr. Delissa Joseph [F.], seconded by Mr. E. J. Sadgrove [F.], that the draft Bill be referred back to the Council for the insertion of a clause for the setting up of a tribunal on the lines of the Dean of Guild Court, Scotland, was eventually withdrawn on the President giving the assurance that when the Bill was passed further steps in the direction suggested by Mr. Joseph should be taken.

The motion was then put to the meeting and carried unanimously.

The Meeting rose at 6.15 p.m.

At the Fourth General Meeting of the Session 1918-19, held Monday, 16th December 1918, at 5 p.m.—Present: Mr. S. Perkins Pick, Past Vice-President, in the Chair; 22 Fellows (including 7 members of the Council), 13 Associates (including 1 member of the Council), 3 Licentiates, and a few visitors—the Minutes of the Meeting held 2nd December 1918 having been taken as read were signed as correct.

It was announced that since the last meeting intimation had been received that the following members had been killed in action:—Lieut. Bernard Richard Penderel Brodhurst, Royal Engineers, *Student*; 2nd Lieut. Thomas Jenkinson Waller, *Student*; 2nd Lieut. Philip Knight, *Student*; Capt. John Arthur Mettham, Royal Engineers, *Licentiate*; and it was RESOLVED that the deepest regrets of the Institute for the loss of these gallant young officers be entered on the Minutes, and that a message expressive of members' sincerest sympathy be communicated to their nearest relatives. The decease was also announced of Mr. Alfred Gladding, *Associate*, elected 1893.

A paper entitled "Housing: The Architect's Contribution" having been read by Mr. Raymond Unwin [F.], a discussion ensued, and on the motion of Mr. Wm. Dunn [F.], seconded by Mr. S. Bridgman Russell [F.], a Vote of Thanks was passed by acclamation to the author and briefly responded to.

The proceedings then closed, and the Meeting separated at 7 p.m.

At the Fifth General Meeting of the Session 1918-19, held Monday, 6th January 1919, at 6.30.—Present:

Mr. Henry T. Hare, *President*, in the Chair; the Hon. Secretary, 12 members of the Council, and other members—the Minutes of the meeting held 16th December 1918 were taken as read and signed as correct.

The Hon. Secretary having announced the decease of Matthew Garbutt, *Fellow*, and referred to his long and valuable services to the Institute, it was **RESOLVED** that the Institute's deepest regrets at his untimely demise be recorded on the Minutes, and that a message of members' sincerest sympathy and condolence be conveyed to his mother and sisters.

The decease was also announced of Richard Glazier, of Manchester, *Associate*, elected 1891; Thomas Wonnacott, elected *Associate* 1870, *Fellow* 1876, placed on list of Retired Fellows in 1902; William Venn Gough, *Associate*, elected 1872, *Fellow* 1906; and Charles Petwood Carter, *Associate*, elected 1905.

The following were elected by show of hands:

#### As Hon Fellow.

LEVERHULME, LORD, THE RIGHT HON. WILLIAM HESKETH LEVER, *Hon. Associate*.

#### As Associates (8).

[The candidates are serving with His Majesty's Forces, and, being Students and duly qualified, have availed themselves of the concessions granted to Students so serving (see Special Regulations, JOURNAL for March 1918).]

BROWN: WALTER JAMES [S., 1912].

CHRISTIE: REGINALD RAYNER [S., 1905].

CLEMES: FRANK [S., 1911].

FORBES: GEORGE ALAN [S., 1918].

KEYLE: JOSEPH RASHBROOKE [S., 1914].

MACMILLAN: ALEC LOWE [S., 1909].

RYLATT: ARTHUR [S., 1911].

TAYLOR: RONALD VICTOR [S., 1911].

In view of the recent cancellation by the Government of the regulation requiring licences to build, Mr. Delissa Joseph [F.], with the consent of the meeting, withdrew the resolution of which he had given notice requesting the Council to arrange for a representative delegation to wait upon the Minister of Reconstruction and place before him the arguments for the speedy removal of the restrictions on building.

Mr. Bernard Dicksee [F.] having referred to the restriction which still existed upon the employment of bricks beyond a certain number, the President stated that the Council would consider what steps could be taken to get the restriction removed.

The President announced that the Council had in contemplation the erection at the Institute of a War Memorial to members who had fallen in the Great War, and that a further notification would be made when the matter had been fully considered.

The proceedings terminated at 6 p.m.

## THE EXAMINATIONS.

### The Final: Alternative Problems in Design.

#### Instructions to Candidates.

1. The drawings, which should preferably be on uniform sheets of paper of not less than Imperial size, must be sent to the Secretary of the Board of Architectural Education, Royal Institute of British Architects, 9 Conduit Street, W., on or before the dates specified below.

2. Each set of drawings must be signed by the author, AND HIS FULL NAME AND ADDRESS, and the name of the school, if any, in which the drawings have been prepared, must be attached thereto.

3. All designs, whether done in a school or not, must be accompanied by a declaration from the Student that the design is his own work and that the drawings have been wholly executed by him. In the preparation of the design the Student may profit by advice.

4. Drawings for subjects (a) are to have the shadows projected at an angle of 45° in line, monochrome, or colour. Drawings in subjects (b) are to be finished as working drawings. Lettering on all drawings must be of a clear, scholarly, and unaffected character.

#### Subject XLIII.

(a) A MONUMENTAL BRIDGE forming the entrance to a town, over a narrow river. 40 feet span. Roadway, 15 feet above water.

Drawings.—Plan, elevation, and cross section to  $\frac{1}{2}$ -inch scale, and details full size.

(b) A PUBLIC HALL, 60 feet by 35 feet, with all requisite lobbies and retiring rooms, on a site 100 feet square.

Drawings.—Plan and two sections to  $\frac{1}{2}$ -inch scale, with details to 1-inch scale, and some mouldings full size.

#### Subject XLIV.

(a) AN INSTITUTE IN A COUNTRY TOWN.—Clubrooms, 50 by 28, for men and boys, with kitchen between and a hall, 70 by 32, for entertainments, &c. Site runs through from one street to another.

Drawings.—Plan (or plans if more than one floor), elevation and section to  $\frac{1}{2}$ -inch scale, with elevation of a portion to  $\frac{1}{4}$ -inch scale.

(b) A BANK IN THE HIGH STREET OF A PROVINCIAL TOWN.—Frontage, 24 feet. Above the bank living accommodation for the manager.

Drawings.—Plans of all floors and section to  $\frac{1}{2}$ -inch scale, also elevation to  $\frac{1}{4}$ -inch scale.

#### Subject XLV.

(a) A SEMI-DETACHED DWELLING HOUSE on a site 30 feet wide by 150 feet deep; three reception rooms and five bedrooms.

Drawings.—Block plan to  $\frac{1}{8}$ -inch scale; plans, elevation and section to  $\frac{1}{2}$ -inch scale, and portion of elevation to  $\frac{1}{4}$ -inch scale.

(b) A COTTAGE HOSPITAL.

Drawings.—Plans, section and elevation to  $\frac{1}{2}$ -inch scale, with detail of portion of elevation to  $\frac{1}{4}$ -inch scale.

#### Dates for Submission of Designs in 1919.

	Subj. XLIII.	Subj. XLIV.	Subj. XLV.
United Kingdom	28th Feb.	30th April	30th June.
Johannesburg	30th April	30th June	31st Aug.
Melbourne	31st May	31st July	30th Sept.
Sydney	31st May	31st July	30th Sept.
Toronto	31st Mar.	31st May	31st July

## NOTICES.

THE FIFTH GENERAL MEETING (ORDINARY) of the Session 1918-19 will be held Monday, 3rd February, at 5 p.m. for the following purposes:—

To read the Minutes of the General Meeting (Ordinary) held Monday, 20th January; formally to admit members attending for the first time since their election; to announce the names of candidates for membership.

To announce the name of the person the Council propose to submit to His Majesty as a fit recipient of the Royal Gold Medal for the current year.

To read the following Paper:—

HOW TO OBTAIN A WATER SUPPLY IN THE ABSENCE OF SPRINGS, RIVERS AND RAIN.

By GEORGE HUBBARD, F.S.A.

Applications for election have been received from the undermentioned gentlemen. Notice of any objection or

other communication respecting them must be sent to the Secretary R.I.B.A., for submission to the Council prior to Monday, the 17th February.

## AS FELLOWS.

MORLEY: ERIC, F.S.I. [A., 1909], 269 Swan Arcade, Bradford, and 14 Park Drive, Bradford.

Proposers: Rowland Plumbe, Henry Perkin, W. J. Morley.

SWARBICK: JOHN [A., 1902], 30 St. Ann Street, Manchester, and Dunluce, Moorfield Road, West Didsbury.

Proposers: Paul Ogden, John B. Gass, Joseph Swarbrick.

TUGWELL: SYDNEY [A., 1911], Cheam House, Exeter Road, Bournemouth, and Pilgrim House, Lymington, Hants.

Proposers: Ernest Newton, A.R.A., Herbert Wigglesworth, J. H. Brewerton.

TYRWHITT: THOMAS [A., 1900], 3 Arundel Street, W.C., and 3 Pilgrims Lane, Hampstead, N.W.3.

Proposers: Sir Aston Webb, R.A., and the Council.

The following have passed the Licentiate's Examination: ALLEN: GEORGE PEMBERTON, 2 Pemberley Avenue, Bedford, and The Queen's Engineering Works, Bedford.

Proposers: Fred. W. Hunt, Charles J. Blomfield, and John Hudson.

COLERIDGE: JOHN DUKE, 14 North Audley Street, W., and Radnor Lodge, Radnor Place, W.

Proposers: Walter Cave, Horace Farquharson, Sir Edwin Lutyens, A.R.A.

FORREST: GEORGE TOPHAM, County Offices, Chelmsford, and Middlefield, Hatfield Peveril, Essex.

Proposers: Beresford Pite, Brook Kitchin, H. G. Crothall.

HODGSON: ARTHUR NICHOLAS WHITFIELD, 9 High Street, Windermere.

Proposers: Stephen Shaw, John F. Curwen, and S. B. Russell.

WILLIAMSON: WALTER, Town Hall, Bradford, and Duncanville, Toller Lane, Bradford.

Proposers: F. E. Pearce Edwards, W. J. Morley, Henry T. Hare.

## AS HON. CORRESPONDING MEMBER.

KRUG: GEORGE HENRY, Santo Paulo, Brazil, Architect for the Cathedral of Santo Paulo and Professor of Architecture under the State Government.

Proposers: Barry Parker, Raymond Unwin, S. B. Russell.

## AS ASSOCIATES.

[The candidates are serving, or have served, with the Forces, and, being duly qualified, have availed themselves of the temporary concessions granted to Students (see Special Regulations, JOURNAL for March 1918).]

ALISON: WALTER [S., 1912], The Croft, Dysart, Fife.

Proposers: James Lochhead, John Watson, John Wilson.

BERCH: FREDERICK WILLIAM [S., 1908], 2 Matford Terrace, Mount Radford, Exeter.

Proposers: James Crocker and the Council.

BENNETT: GWYN [S., 1910], 2 Pelham Road, Gravesend.

Proposers: T. Edwin Cooper, H. D. Searles-Wood, S. D. Adshead.

BROADHEAD: FRANK ARTHUR [S., 1911], 42 Plains Road, Mapperley, Nottingham.

Proposers: A. Ernest Heazell, H. G. Watkins, Ernest R. Sutton.

BRUCE: JOHN CLAYTON COLLINGWOOD [S., 1913], Hillcrest, Whitby, Yorks.

Proposers: Robt. Atkinson, Henry M. Fletcher, Herbert Wigglesworth.

CAMERON: ROBERT HUNTER [S., 1913], c/o Miss Campbell, 40 Airlie Gardens, Hyndland, Glasgow.

Proposers: Sir Edwin L. Lutyens, A.R.A., Frank T. Verity, A. G. R. Mackenzie.

CART DE LAFONTAINE: H. P. L. [S., 1911], 33 De Vere Gardens, W.8.

Proposers: Reginald Blomfield, R.A., E. Guy Dawber, Charles E. Bateman.

CASH: HERBERT WILLIAM [S., 1910], 7 Connaught Road, Harlesden, N.W.10.

Proposers: John Cash, E. A. Rickards, H. V. Lanchester.

CLARE: ALFRED DOUGLAS [S., 1913], 118 Palatine Road, West Didsbury, Manchester.

Proposers: John James Joass, T. Edwin Cooper, Mervyn E. Macartney.

COLERIDGE: PAUL HUMPHREY [S., 1910], 14 North Audley Street, W.

Proposers: Horace Farquharson, Charles J. Blomfield, and the Council.

CURRIE: JOHN KIRKWOOD [S., 1918], 75 Onslow Gardens, Muswell Hill, N.10.

Proposers: David Barclay Niven, Herbert Wigglesworth, Arthur Clyne.

DEERY: DOUGLAS CHARLES LAWFOED [S., 1917], North Bank, Oakleigh Park, N.

Proposers: Robt. Atkinson, Chas. E. Varndell, Henry M. Fletcher.

EDWARDS: ARTHUR TRYSTAN, M.A. Oxon. [S., 1915], Courtland House, Merthyr Tydfil.

Proposers: A. E. Richardson, Reginald Blomfield, R.A., and the Council.

EDWARDS: JOHN RALPH [S., 1912], 9 Clarendon Road, Redland, Bristol.

Proposers: Sir Ernest George, A.R.A., George H. Oatley, Alfred B. Yeates.

GILL: MAURICE BERNARD [S., 1913], 12 Lakeside Road, Palmer's Green, N.13.

Proposers: Walter R. Jaggard and the Council.

GLENCROSS: LESLIE HAROLD [Special War Examination], 9 Rupert Road, Bedford Park, W.

Proposers: David Barclay Niven, Raymond Unwin, S. B. Russell.

GRAY: GEORGE HALL [S., 1912], "Belmont," Preston Avenue, North Shields.

Proposers: Thomas R. Milburn, Arthur B. Plummer, Geo. T. Brown.

HARKNESS: WILLIAM [S., 1912], Bourton, Dorset.

Proposers: W. A. Forsyth, W. H. Harrison, W. B. Cresswell.

HARWOOD: ARNOLD WILLIAM [S., 1911], Eckington, Uphill Road, Mill Hill, N.W.7.

Proposers: James Ransome, Banister Fletcher, F. Hammond.

HASELDINE: CYRIL FRANK WILLIAM [S., 1913], 2 Bramcote Road, Beeston, Notts.

Proposers: A. N. Bromley, H. G. Watkins, Robt. Evans.

HEAD: GEORGE LESLIE [S., 1912], 65 Marlborough Mansions, N.W.1.

Proposers: John Hudson, Henry T. Hare, and the Council.

HILL: HENRY HOUGHTON, B.A. [S., 1905], 22 George's Street, Cork.

Proposers: C. H. Reilly, Albert E. Murray, Samuel F. Hynes.

HUBBARD: HARRY [S., 1914], 11 Queen Square, Glasgow, S.

Proposers: John Watson, John Keppie, Wm. B. Whitie.

LAWSON: EDWIN MADBISON [Special War Examination], Fairfield, 2 Ivanhoe Terrace, Chester-le-Street, co. Durham.

Proposers: R. Burns Dick, John Cackett, Robert Atkinson.

LAWSON: JOHN SCOTT [S., 1913], 1 Castle Blair Park, Dunfermline, Fife, N.B.

Proposers: Beresford Pite, Jno. Watson, Jas. C. Wynne.

- LEADAM:** EVELYN GRAHAM SEATON [S., 1913], 25 Nevett Square, S.W.5.  
*Proposers:* W. H. Woodroffe, Herbert Baker, and the Council.
- LEAHY:** WILLIAM JAMES [S., 1909], 22 Ulleswater Road, Southgate, N.14.  
*Proposers:* Percival M. Fraser, Edward A. Hunt, W. Henry White.
- LLOYD:** ALBERT PEREGRINE [S., 1914], 5 The Promenade, Swansea.  
*Proposers:* Glendinning Moxham, Charles T. Ruthen, Walter Pott.
- MAY:** THOMAS WILLIAM VIVIAN [S., 1914], 24 Gladwell Road, Hornsey, N.8.  
*Proposers:* Walter Pott, Sir Henry Tanner, C.B., James Ransome.
- MIDDLETON:** VIBERT [S., 1903], 35 Park Road, Newcastle-upon-Tyne.  
*Proposers:* Arthur B. Plummer, Chas. S. Errington, and the Council.
- PITE:** ION BERESFORD, B.A. [S., 1914], 5 Rudall Crescent, Hampstead, N.W.3.  
*Proposers:* Beresford Pite, W. R. Lethaby, William A. Pite.
- RICHLEY:** NORMAN [S., 1918], The Vicarage, Percy Main, Northumberland.  
*Proposers:* W. Rushworth, Fredk. Willey, Arthur B. Plummer.
- ROBINSON:** NORNGROVE STUART [S., 1912], The Beeches, Hundleby, Spilsby, Lincs.  
*Proposed by the Council.*
- ROSE:** GEORGE ALFRED [S., 1913], Crayleigh, 54 Kings Road, Wimbledon, S.W.19.  
*Proposers:* R. J. Thomson and the Council.
- ROWNTREE:** DOUGLAS WOODVILLE [S., 1908], 11 Hammersmith Terrace, W.6.  
*Proposers:* Charles Spooner, S. D. Adshead, Fred Rowntree.
- RUTHEN:** ERNEST SIDNEY [Special War Examination], 64 Croftdown Road, N.W.5.  
*Proposers:* E. Vincent Harris and the Council.
- SACRE:** LESTER HOWARD [S., 1914], East Hanningfield, Chelmsford.  
*Proposers:* Wykeham Chancellor, Arnold Mitchell, and the Council.
- SAUNDERS:** BERNARD ROBERTSON [S., 1913], 13 Vernon Road, Edgbaston, Birmingham.  
*Proposers:* F. Barry Peacock, Ernest C. Bewlay, Samuel N. Cooke.
- SKELDING:** PERCY [S., 1912], 9 Lockleaze Road, Horfield, Bristol.  
*Proposed by the Council.*
- SKINNER:** MARTIN [S., 1902], Laleham Cottage, Walton-on-Thames.  
*Proposers:* J. S. Alder, H. P. Burke Downing, C. Wontner Smith.
- SLATER:** MARTIN JOHNS [S., 1912], Hadleigh, Suffolk.  
*Proposers:* G. Salway Nicol, J. Coulson Nicol, James A. Swan.
- SMITH:** CHARLES WILLIAM [S., 1915], 143 Chesterton Road, Cambridge.  
*Proposers:* T. D. Atkinson, Edward S. Prior, A.R.A., A. Paul MacAlister.
- SPENCE:** ANDREW TEBBUTT [S., 1912], 54 West Side, Clapham Common, S.W.  
*Proposers:* John G. T. Murray, Beresford Pite, H. W. Hetherington Palmer.
- STEPHENS:** HERBERT STANLEY [S., 1913], 139 Siege Battery, B.E.F., France.  
*Proposers:* Sir Aston Webb, Detmar Blow, and the Council.
- TUNNARD:** H.V. BARTHOLOMEW [S., 1914], c/o. W. A. Pite, Esq., 116 Jermyn Street, S.W.1.  
*Proposers:* William A. Pite, E. Guy Dawber, Beresford Pite.

- WHITE:** THEODORE FRANCIS HANSFORD [S., 1913], 35 Avenue Road, Regent's Park, N.W.  
*Proposers:* W. Henry White, Beresford Pite, John Murray.
- WIGGINS:** JOHN STANLEY [S., 1913], 11 College Gardens, King's Cliff, Brighton.  
*Proposers:* E. C. P. Monson and the Council.
- WILLIS:** WILLIAM ELIA [S., 1908], Danyderi, Pentre, South Wales.  
*Proposers:* E. M. Bruce Vaughan, John H. Phillips, Harry Teather.
- WOODROFFE:** NORMAN FREDERIC [S., 1911], 2 Rutland House, Marloes Road, Kensington, W.8.  
*Proposers:* W. Campbell Jones, W. H. Woodroffe, George Hubbard.

#### Competition for Laying-out the Pineapple and Fordhouse Farm Estates for the Birmingham Corporation.

The Competitions Committee of the Royal Institute of British Architects request Members and Licentiates of the Institute not to take part in the above Competition until a further announcement is made that the Conditions have been brought into conformity with the Institute Regulations.

#### Subscriptions of Members on Service.

On the recommendation of the Finance and House Committee the Council have resolved that Members and Licentiates serving with H.M.'s Forces will be required to pay half the amount of their subscriptions and contributions for the current year from the 24th June next.

#### Sessional Meetings: Prospective Arrangements.

- 3rd February.**—Paper by Mr. George Hubbard, F.S.A.: "How to Obtain a Water Supply in the Absence of Springs, Rivers, and Rain."
- 17th February.**—Paper by Mr. Herbert T. Buckland: "Factory Buildings, with special reference to the Welfare of the Worker."
- 3rd March.**—Business Meeting and Election of Royal Gold Medallist; the Revised Scale of Professional Charges.
- 10th March.**—General discussion on Professional Problems of the moment.
- 17th March.**—Paper by Sir Frank Baines, C.B.E.: "War Factories and Sheds: their Construction and Adaptation to Future Needs."
- 31st March.**—Paper by Captain Rimmer, A.M.Inst.C.E., Barrister-at-Law: "Legal Difficulties in the Administration of Building Contracts."
- 14th April.**—Paper by Major Edward P. Warren: "An Architect's War Experiences in France and the Balkans."
- 5th May.**—Annual General Meeting.
- 19th May.**—Paper by Mr. H. Van Buren Magonigle (of New York) on "American Railway Stations."
- 2nd June.**—Business Meeting.
- 23rd June.**—Presentation of Royal Gold Medal.

#### Housing of the Working Classes.

##### NOW READY.

Cottage Designs awarded Premiums in the Competitions conducted by the Royal Institute of British Architects with the concurrence of the Local Government Board.

Copies are on sale at the Institute, 9 Conduit Street, W., price 5s. net; post free, 5s. 6d. Booksellers are supplied by B. T. Batsford, 94 High Holborn, W.C.



WHITE HOUSE, GREAT CHART, KENT.

## THE MAKING HABITABLE OF OLD DWELLINGS IN TOWN AND COUNTRY.

By M. H. BAILLIE-SCOTT.

Read before the Royal Institute of British Architects, Monday, 20th January, 1919.

**B**Y "making habitable" I understand that we are to mean something more than the fulfilment of material needs and are to suppose some intelligent appreciation of the qualities of the building art on the part of the occupants. And what do we mean exactly by old dwellings? May I not take it that we use the term in a sense distinctly Pickwickian?—the special meaning which architects convey when they talk about "old work" in which the mere passage of time is in itself quite a negligible quantity. In old work we chiefly, I think, consider a certain æsthetic rightness and beauty expressed in practical ways which as a method of expression in building was gradually done to death in the early part of the nineteenth century, and which we have been struggling to recapture again ever since with, so far, small success. Indeed, whatever isolated architects may have achieved in odd corners, it must be confessed that the gradual trend of house building has gone from bad to worse up to the present time. We used to think that there could not be much worse building than the mid-Victorian houses until the artistic villa arose in our midst and showed us our mistake. And now to such a state have we come that any man who has any "house sense," if I may coin the term, may consider himself fortunate if he can find for himself a dwelling which is not absolutely revolting to all his instincts. It is perhaps fortunate in these circumstances that so many people have not developed the "house sense," and so are quite pleased with their highly artistic residences. But the curious result of this disappearance of the building art at the approach of our modern civilisation is that in dealing with old buildings in these days we find ourselves in a position which has probably never occurred in the world before. In former times it was quite a simple affair. The builders of the day



made their alterations and additions in the manner of the day with ruthless disregard of the older work. The latest and most up-to-date ideas seemed to have been always considered the best, and the old builders destroyed and obscured old features because they knew, or thought they knew, that they could do better. And so we often find old houses which are pocket editions of the histories of the past. The modern wing is usually a blot, the Victorian addition is depressing, the Georgian and Queen Anne work impresses us with its scholarly diction and good grammar, but it is not till we get back to the work of the earlier builders that our hearts are touched and thrilled by the strange charm of the building art as then practised. This being so, we cannot, like the builders of the past, make our modern contribution to the old house without fear and trembling. The best we can do is to sit at the feet of the old builders and try to build as they did. To attempt to account for this humiliating state of affairs would lead me too far away from the subject in hand. I can only say that, in my view, building as an art differs from other arts mainly in this—that it is the expression not of an individual but of the community as a whole, and so the badness of normal modern building seems to indicate something radically wrong in the modern social system which secretes it. Building, indeed, like the fever chart of a patient, automatically and remorselessly records the condition of the social state, and we can only really obtain any good building again as a normal national expression when the conditions of the social state are changed and the state of our national health improved. In the meantime we architects must do the best we can in the world as we find it. Perhaps the best we can do in dealing with an old building is absolutely to efface ourselves and to let no modern note disturb the harmony of the old work. But before proceeding further with the consideration of this philosophical aspect of the question it will perhaps be more useful to deal with certain practical matters which arise in making old dwellings habitable.

If I do not enlarge in detail on practical questions it is because in addressing architects I feel I can say little that is not commonly known to us all and covered by our routine methods. I suppose the one outstanding practical defect in old buildings from the modern point of view is the absence of a damp-proof course, or, indeed, of any attempt to cut off the building from the ground on which it was built. I have heard it argued that there is a certain virtue in the contact with Mother Earth, magnetic currents on which the healing powers of mud baths depend, etc.—I dare say some of our soldiers returning from France might have something to say about that—and in our modern practice we not only ask for damp-proof courses in our walls but for a continuous bed of concrete under the whole floor area of a house. The first thing, then, that we have to consider in making an old house habitable is the prevention of damp rising from the ground through walls and floors. It is, of course, possible, though somewhat expensive, to insert a damp-proof course in an old wall. But I think if all soil is removed from the sides of the walls and air drains introduced, so that only the actual sole of the footing is in contact with ground, and if the site itself is likewise well drained, the absence of the damp-proof course will be scarcely felt. If, in addition to this, the ground flooring is taken up and a bed of concrete laid under it the question of damp rising from the ground will be effectually disposed of. If we next consider the question of damp penetrating walls it may, I think, be taken as a general axiom that it is generally best to stop this outside the building. One is often disposed to allow the damp to penetrate a wall and stop it from showing indoors by plastering on battens, but it always seems more satisfactory to keep it outside altogether. Thus, in the case of old half-timber work, which was only 4 inches thick, in an old Kentish house in an exposed position, I used the old method of hanging the exterior face of it with tiles—not in the usual mechanical modern way but with such irregularities as naturally occur when the workman does not deliberately spoil his work by taking endless pains to make it appear as if it were done by a machine. Then it became possible to let the half-timber work show inside the rooms, and when in doubt I always feel inclined to take care of the inside of a house, and to some extent to allow the exterior to take care of itself. For I think we are too often apt to fall into the error of thinking of the exterior of a house as a thing by itself to be com-

posed and arranged on æsthetic principles, whereas I believe perhaps the most vital quality the exterior of a building possesses is a kind of unconscious sincerity as the resultant of a conception which has mainly been concerned with the interior. And thus the pleasure we derive from looking at the exterior is something more than a shallow appreciation of superficial things, but consists rather in the hints it conveys to us of inward beauties.

In dealing with old stone walls which are damp I have a great belief in external colour wash, mixed with Russian tallow. This gives a waterproof coat which still displays the characteristic texture of the stone with all its varied planes slightly softened so that you get a bit of sky reflected from one plane and a bit of grass from another. I have seen cottages on the West Coast entirely colour-washed—slate roof and all—some white, some pink, and others buff or deep orange, with excellent effect, both practically and artistically. If cement is used or rough-cast the characteristic texture of the stone walling is lost. In all such matters it seems to me the architect should try to find a way of reconciling use and beauty. In the work of the old builders we constantly find methods of workmanship which please us, partly because they are so sensible and practical and partly because they are beautiful. And this kind of practical beauty always seems to me the essential thing in building. It is no use telling me that if a thing is fitted for its purpose it is beautiful. If instead of colour-washing an old stone wall we had cemented it over to a nice level surface ruled over with lines to represent joints, it would answer the purpose well enough, but all the beauty and interest of the wall would be lost. One does not object to practical and scientific ways of doing things. We are bound to be practical, but we must be something more unless building is to sink into what Carlyle called a mere beaverism. And so, when practical merits are claimed for ugly methods we must urge that the problem is only half solved, and that the worser half. Such work is not worthy of human beings, but only of beavers. Like *Oliver Twist*, we ask for more.

In the case of brickwork which is absorbent, linseed oil applied externally when the wall is dry will fill up the pores, and in most cases this is preferable to silicate compositions, which provide only a perishable outer skin. Having made our floors dry and our walls dry, I need not trouble you with any further "wrinkles" as to the roof, any defects in which will yield to the routine methods of the textbooks.

The next practical matter which claims our attention is that of sanitation. Many old houses, especially those which have come down in the world, and have been cut up into tenements, require considerable cleansing. In such cases floors should be taken up and all the hidden spaces of the house completely cleansed and disinfected. It is in applying this process that treasure-trove may be hoped for. In a recent case, besides several coins, the whole space between the joists was found full of walnut shells, whether used as deafening or carried there by rats I cannot say, and in the midst of these was discovered the record of a grim tragedy—the skeleton of a rat about a yard in front of the skeleton of a cat, which had apparently in the ardour of the chase cut off the retreat of the rat only by wedging itself immovably between the joists.

Then there is the question of smoky chimneys, and their cure, and the desire to preserve the old open fire-places without discomfort. These can only be dealt with usually by a process of trial and error. In one old ingle I recently saw an old tin bucket with the bottom knocked out hung up in the chimney. The owner assured me that when he removed this the fire smoked. In an old house in Kent recently restored there was a great ingle fireplace with open chimney which never smoked. I believe this was largely due to the fact that the whole of the back of the ingle sloped gradually backwards, so that as the air which fed the fire struck the back of the recess it was at once deflected upwards. Nowadays we like to slope the back of our fireplaces forwards to preserve the heat, with the result that we preserve the smoke as well.

In the artificial heating of old houses with such open fireplaces a warm air system will often be found preferable to the use of radiators. This does not answer very well if there is a very extensive

ground plan, but otherwise if you bring in the cold air supply in the basement and moderately heat it by passing over the furnace there, and then take it in channels to gratings in the floor, it forms a supply of air to the fireplaces which helps the draught up the chimney and incidentally relieves the strain caused by the pull of the fire on the house generally, and so tends to eliminate cold draughts. As gratings are only required in the floor one is relieved of the problem of disguising the radiators.

In dealing with a house which comprises a succession of different periods I daresay we shall not be over anxious to preserve the Victorian work. But often we may find Georgian work covering up earlier Tudor features, and in such a case I think the treatment will largely depend on the relative interest of the particular work, for no definite rule or principle can be formulated. At any rate, we shall be right in preserving the later work in preference to any *conjectural* reproduction of the earlier features. I can recall more than one example of good old seventeenth-century fronts replaced by what the old Tudor fronts were *supposed* to have been like, with the result that the whole effect is that of a Wardour Street fake. This word "fake" has an unpleasant sound, but in spite of that I want to attempt a defence of what I call judicious and intelligent faking in dealing with buildings.

Let me take first the case of a piece of old oak furniture. What do we admire about it? I don't suppose we care much whether it was made yesterday or five hundred years ago. Apart from the design we appreciate mainly the quality of the workmanship, which has succeeded in expressing the *character* of the oak and also the quality of the tone which has arrived as the result of many years of wear. There is one rule in art which I always swear by. It is Browning's saying, "You may do anything you *like*." And so, I think, if you like that tone of the oak and that character of the workmanship you are entitled to try and obtain it in new work.

To take another example. I dare say you may remember a drink some of us used to enjoy before the war. I refer to Scotch whisky. In order to make it palatable it must be kept for five or ten years. If we suppose an invention which would give the requisite change in the whisky without this passage of time, I imagine we should not hesitate to use it. We should not be accused in doing so of faking the antique. And I think the artificial production of the beauties of old work are equally justified.

The methods used by the modern faker are very much the same as those used by many painters of pictures. Both are aiming at quality of tone, and both will on occasion put on a wash of colour, rub it out again, and then repeat the process to obtain the desired quality. Needless to say there is a bad kind of faking which fails to achieve its aims, but when faking is well and intelligently done I think it justifies itself. I never can understand why in adding, say, to a Tudor house we should merely copy the features of the old work in modern cast-iron, machine-made workmanship. We ought surely to go to the heart of the matter while we are about it, and this is much more a matter of character in workmanship than anything else—real home-made work, without a hint of the machine about it.

I remember once adding a new room to an old house, which it was generally believed by the local residents we were going to spoil. One of these on being received in the new room looked around and exclaimed, "Well, at any rate, you haven't spoilt this dear old room." It was actually all brand-new, but there was really no intention to deceive. The aim was to achieve certain qualities of tone and workmanship belonging to old work, and, after all, *when* it was done does not seem to matter very much. I do not think it ever does really matter. It seems to me that in the consideration of old work in these days we are apt to take extreme courses. Either we destroy some interesting building or else we reverently preserve it as something too sacred for the human uses for which it was created. I like to see an old house ingeniously adapted to modern uses. I should like to see Haddon Hall as a going concern instead of an interesting derelict. It would require careful handling, but I think it could be done. Cowdray Castle, too, might well be built up again.

The subject with which I have to deal includes the making habitable of old dwellings in town as

well as country. I must confess I am more interested in country building than in town building. In one sense it does not seem to matter much what you build in a modern town. There is nothing to spoil in a modern town. When a new frontage is put up, say in Oxford Street, we do not say "Oxford Street is quite spoiled." And if this is true of London what can be said of Manchester or Birmingham, and all the other ugly modern towns we have created? These places are too dreadful to disfigure or to beautify. But in the country it is different. There are old villages still, and beautiful country places still, that we ought not to spoil with officially approved cottages chopped up in blocks of four, like bars of soap. And yet, even in the town, there are still left little back streets of old Georgian houses which ought to be guarded and preserved against the modern town planner with his grandiose schemes.

I do not know if I shall get any sympathy here for my dislike for the ideals of this latest portent of the times—the modern town planner. With true Prussian frightfulness he loves to hack his way through the little streets and make a colossal and interminable avenue of immense width, lined by buildings adapted for the use of supermen. The pedestrian in such an avenue will find the mere crossing of the road a gigantic undertaking, and his progress will be punctuated by trees recurring with the regular persistence of a nightmare. As for me, I like to see towns constructed in the scale of a man of the usual size, with streets of reasonable width. And if I want to look at St. Paul's I would rather come on it suddenly on turning a corner than have it at the end of a great vista. Vistas are well enough, but they should be short ones, I think. It is much to be feared that our desire to commemorate our victory over the Prussian may lead us to express in building those very qualities we set ourselves to overcome in him.

I suppose we all have our ideals of what a town should be. I myself do not want great avenues and ponderous and monumental buildings, but streets gay and bright and clean, with painted signs done by the best artists we have, and from this busy cheerful scene I should like to turn into a hinterland of quiet, dignified, restful squares, as at Gray's Inn, for example; the whole thing of a reasonable scale and without any colossal architecture.

In the present congested state of London, which seems likely to continue, it seems a pity that some use cannot be made of many of those large Victorian houses in such streets as Gloucester Road. If these were transformed into flats they would give a great deal of much needed accommodation. In such cases much may be done to camouflage the character of the structure by various devices—not only in structural alterations, but in amusing colour schemes and interesting furniture.

In the treatment of Georgian houses in towns in these labour-saving days, we must either put in lifts and other modern conveniences or else substitute for the vertical disposition of the rooms a horizontal one—or, in other words, turn houses into flats. There still remain streets in London of fine houses of the Georgian period, which have now degenerated into slums, which might well be restored to their old dignity. Some of these in Westminster have already achieved a destiny far beyond their dreams, and so in some little back street that romantic quality which consists in the conjunction of violently opposed incongruities may occasionally be noticed. From a little house from which one might naturally expect to see some ancient charlady emerge on a mission to the "jug-and-bottle" entrance of the public-house next door one may now occasionally observe an unexpected apparition from the world of fashion.

Just as the modern world has so far failed utterly to supply us with little but vulgar furniture so that we are glad to obtain the household belongings which the humblest cottager once enjoyed, so, too, we gladly accept the old cottages in town and country in preference to anything that the modern world has to offer us.

If the building art were still practised as it used to be there ought to be nothing tragic in the destruction of old buildings in town or country. The real tragedy consists not so much in the destruction of the old as in the lamentable fact that we have lost the art of replacing it with something nearer

to the heart's desire. Building in these days is practically a forgotten art, and is practised normally only as a brutal mechanical trade. The real qualities of buildings by which they acquire definite personalities consist mainly, I think, in an instructive sense of proportion combined with a characteristic technique in the handling of materials. Nowadays we substitute for this old work with all its subtle variations of line and surface nothing but a cast-iron monotony of deadly mechanical regularity. This ideal of mechanical regularity invades our conceptions with the insidiousness of a drug. I think we architects should draw as much as possible in free-hand, and even with charcoal on brown paper, to escape from the tyranny of the Tee-square, and in order to realise the characteristic qualities of lines and surfaces. The more mechanical methods may be enduring in the larger buildings, but variety and character of outline and surface are the very breath of life to the cottage. I suppose there are few of us who do not look forward with some dread to the forthcoming influx of workmen's dwellings. Few of these will be built by artists, and unless they are built by artists they will be a disfigurement to the country. Scientific and material ideals are well enough as far as they go, but building is and always must be essentially an art and must be practised with all the affectionate care which the artist gives to his work. Here is a description by Tennyson of some old cottages, if you will allow me, for this occasion only, like Silas Wegg, to drop into poetry :

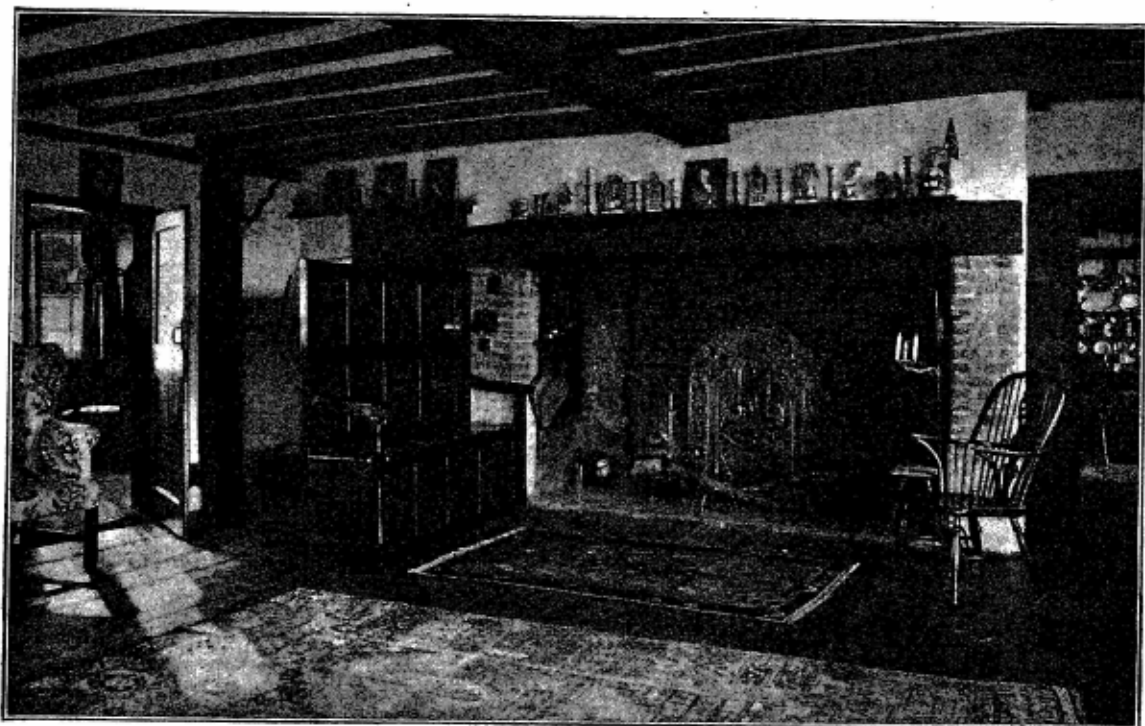
Here was one that, summer blanch'd,  
Was parcel bearded with the traveller's joy,  
In autumn parcel ivy clad; and here  
The warm blue breathings of a hidden hearth  
Broke from a bower of vine and honeysuckle;  
One look'd all rose tree, and another wore  
A close-set robe of jessamine sown with stars;  
This had a rosy sea of gilly flowers  
About it; this a milky way on earth  
Like visions in the northern dreamer's heavens,  
A lily-avenue climbing to the doors;  
One almost to the martin-haunted eaves,  
A summer buried deep in hollyhocks;  
Each, its own charm.

All that we should now sweep away at the smallest excuse in favour of a cottage with a sanitary dust-bin at the back doors. Not that I would underestimate the importance of sanitation, only, I think, just now and then, we ought to lift our noses out of the drains and look up to the heavens. And in these days especially we ought to be careful not to condemn cottages which might easily be made habitable. And more than that, every old cottage and every old house ought to be treasured as object lessons in the building art.

Of all the tasks which fall to the lot of the architect I can conceive of nothing more delightful and interesting than the restoration of an old house. In the building of a new house one is so often surrounded by circumstances which are uninspiring and depressing. There is the featureless building plot, with perhaps some adjoining artistic villas. And since the aim of the artist in building should surely be to build in some-sort of harmonious relationship with surroundings, it is hard to say what is to be done in such a case. But with the old house all these difficulties disappear. We have only to follow in the footsteps of the old builders and it seems almost impossible to go wrong because, lest we forget, the old house is always there to guide us. It is an object lesson for the workmen, showing exactly how the work should be done. We can point to a bit of old Tudor brickwork and tell our bricklayer to do work just like that. And then when we begin to investigate we become seekers for hidden treasure. Buried under modern plaster and wallpaper we may find panelling, we may even find tapestry. At least we are sure to find some old coins which have dropped between the boards of the old oak floors. And as we go on with the work we fall more and more under the spell of the old building and approach nearer to the heart of its mystery, and so with our minds steeped in its silent influences we begin to realise what building really is, and what it has meant, and may still mean, in



the adornment of the world in which we live. It is something so much more than a mere practical expediency. Rightly handled, it becomes a medium for the expression of great spiritual forces to mould and guide our lives.



WHITE HOUSE, GREAT CHART, KENT.

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## DISCUSSION ON THE FOREGOING PAPER.

Mr. ARTHUR KEEN, *Member of Council*, in the Chair.

Mr. HERBERT W. WILLS [F.]: I have very great pleasure in proposing a vote of thanks to Mr. Baillie-Scott for his excellent paper. We are often told that it is a good thing to set our eyes on what is unattainable, because, if even we cannot reach so high, we may arrive at what is a great improvement. I feel very much in that position concerning Mr. Baillie-Scott. He is not a member of this Institute, though the Institute would very much like to have him on its roll. In that sense, our wish seems to be unattainable. Still, I think we are fortunate in the fact that he has this evening entered our doors for the first time in his life to read a paper to us. I am sure no one who has seen Mr. Baillie-Scott's work and who has met him can fail to appreciate the fact that he has made a great contribution to the practice of building: I will not call it the practice of architecture because architecture is a term which Mr. Baillie-Scott emphatically dislikes, and, in a certain way, I can understand his feeling. Our lecturer referred—and not in altogether complimentary terms—to the present town-planning wave which is passing over the country. I must say I feel in great sympathy with what he said on that head. I am afraid we may get rather too much town planning than too little, and I hope that in the course of the next few years some of the grandiose schemes which have been put before us will have met a natural and painless death.

Mr. FRANCIS HOOPER [F.]: It is a great pleasure to me to have the opportunity of rising to support this vote of thanks. We thank Mr. Baillie-Scott for coming, but we also thank him for something more. Either his own personality, or the title he has given to his paper, accounts for the presence among us of more ladies than I have seen here for a very long time, and, as a very respectful worshipper I may say we give them a very cordial welcome. I think this is a topic on which ladies can help architects very much indeed, and the more interest taken by ladies—and their influence is now increasingly important—the better it will be, not only for architects, but for the community at large. Mr. Baillie-Scott, dealing with the matter first, as we should expect, as an artist, has touched upon various economic aspects. I do not know that the question of street alignment and wide streets comes directly within the limits of his title, but the subject he has dealt with is essentially an economic problem, and I venture to urge that it is also a national one. If, as all of us hope, the tremendous happenings of the past four years are to have a marked influence on the history and the welfare of the community, then that community must be better housed than is the case at present; and if any politician or other person can dream of rehousing the whole community, or all who

at present are ill-housed, they have set themselves a problem which is as near impossible as any they could approach. But we all know there are a vast number of buildings which could be improved. Obviously, Mr. Baillie-Scott's heart is in the country. Our hearts must have ached again and again when sketching or studying buildings from the outside, when we have tried to picture the inside. Sometimes we manage to get in and see the conditions of the homes as they are. Mr. Baillie-Scott has suggested that we should look heavenward. It is a fact that we have been looking earthwards, and that is the trouble in many homes. How many cottages have their windows almost on the floor in order to clear the eaves. The idea of looking heavenward has been absolutely prohibited. The lecturer has referred to many points, such as dryness, warmth, and so on, but to get light into a building is as essential as any other feature, and, while we teach children what is essential and of benefit for plants and animals, we should tell them what is important for the human, too. That is a point to which most careful study should be given. How often in the country do we find that the prospect of a good view and plenty of light has been ignored: perhaps a blank wall abuts on to beautiful scenery, scenery which is elevating to mind and spirit. In town again, on looking round streets and squares, what an enormous number of rooms are uninhabited. One hopes that both in town and country there will be a desire to make better use of the things that we possess. The housing-accommodation of London could be enormously extended if it were possible to improve what already exists. I am sure every architect in London, and perhaps throughout all the country, knows that there has been one heavy incubus: so many houses and other properties are not freehold, they are bound by leases which prohibit alteration, leases limited by a term of years, and the occupier or lessee feels himself powerless under those conditions and unable to make obviously needed improvements. We are not unmindful that the Window-tax was repealed only in 1851, and much still remains to make amends for an enactment, which may have been well-intentioned in the seventeenth century, but must have been injurious beyond estimation in after years. The Council of the Institute is tackling one big problem, one which needs the help of the Legislature, and that is with regard to light. If by persuasion—for I believe in persuasion rather than attempted coercion—we could so educate those responsible, particularly members of the legal profession, as to the need for removing this incubus and others which have hung round the necks of the community, they would not only get the blessing of men, but, I believe, they would also obtain the blessing of God.

The CHAIRMAN: I confess to a certain amount of disappointment in the paper itself, which, however, I have enjoyed immensely as far as it went. I hoped it would have gone further, that the author would have had a lantern and shown us what has been done, by himself and others, in dealing with this very difficult problem. But he has not thought it right to do that: perhaps his natural modesty has something to do with it. The individual problems are all difficult. These old houses as a rule are not only damp, but they have very low rooms. I have known rooms in them in which a tall man could not stand upright, and these were the ordinary living rooms. I recently measured, in Sussex, a room which was only 5 feet 9½ inches high, and how a tall man could have lived in it I do not know. That house was built some 300 years ago, and is still inhabited. I have also been in a room in which I could not stand upright, and I am not 5 feet 9½ inches in height. I have had to sink the floor of a room before my client could stand comfortably in it, he being a man of 6 feet 2 inches. To lower the floor means going even nearer the ground than is the present practice, and already the floor is too near to it for comfort and dryness. The question of light Mr. Hooper has dealt with. It often happens that in order to insert a window under the eaves it is placed so near the floor that ventilation is not possible. The inconvenient arrangement of many of these old houses is so great that they are almost beyond the possibility of treatment. Doors lead through the living room to one or more bedrooms, and the bedrooms can only be approached one from the other. What can one do with them? You are asked to make the place presentable and habitable according to modern notions, but in some this is well-nigh impossible unless you undertake drastic alteration and destruction of the old work. An instance in which an old mansion was very successfully dealt with was that of "Montacute," in Somerset. The original house consisted of a long central hall, with a gallery above and two wings, and it was never possible to get to the front or back door except by passing through this great central hall, which was the dining hall, and the inconvenience of such a plan in modern days was very great. Somewhat over 100 years ago another manor house in the neighbourhood was destroyed, and the building materials of which it consisted were put up for sale. The owner of "Montacute" went over to the sale and bought, bodily, the front of this old house, brought it stone by stone to "Montacute," and rebuilt it between the projecting wings of the house and the porch, which formed a big central projection. In this way, in front of the main wall of the house, both on the ground and first floors, a front of old material, very fine architectural stone

work, was built to form a corridor, giving direct access to the other parts of the house. Another difficult question—and to that Mr. Hooper referred also—is that of aspect. A particularly flagrant example of a house designed with a wrong aspect is Astonbury Hall, in Hertfordshire, a very important manor house. Although there is a particularly fine view to the south of the house, only pantry and staircase windows open on to it, all the important room windows looking north over bare fields. What could one do in such a case as that? I think there are few possibilities. Sometimes one might make these old places into convenient residences fit for modern requirements if one had the courage to face the ill-favour in which one would find oneself after seriously interfering with fine old structures. If this were a set discussion there are a number of points on which I would join issue with Mr. Baillie-Scott. He suggests an ideal for architectural work which appears to me to be impracticable: he wants the bricklayer to be shown the old work and made to copy it, and he wants the carpenter to do the same thing. But that is not feasible; you cannot build 300,000 cottages in that way, and you have to find some method to take its place. It used to be the art of the builder, now it has to be the art of the architect, and I am afraid we have to face the new conditions. You cannot have what you used to have. The ways of the past have gone with that past, and though I value the work which was done in the past, and I wish we could have it again, and I am with him in his anxiety to preserve every stick and stone in old cottages as much as possible, we must accept the new conditions. I do not think even our lecturer would say he wishes to reproduce them. But he wishes to reproduce the old spirit, and that, I am afraid, has gone beyond recovery.

Mr. BAILLIE-SCOTT, in responding to the vote of thanks, said: The most interesting things to me in connection with the discussions which follow a paper are the criticisms, because they are always valuable. It is now rather late to deal with the various points which have been raised by speakers. The point you mentioned, Sir, as to the height of rooms, you yourself satisfactorily answered, showing that one can lower the floor 6 inches or so and thus get over the difficulty. With windows, in the same way, one can often raise those by making a window which comes under the eaves into a dormer, and so on. I think most of the points mentioned could be made to yield to treatment, but I confess that in the instance of the house with a northern aspect, to alter that is rather beyond one's power. The only thing one can suggest is to use such a dwelling for a summer residence only, for on a hot summer's day the north wind might be very cooling.

## NOTES ON PLANNING.

By Professor W. M. FLINDERS PETRIE, D.C.L.,  
F.R.S. [*Hon. A.*].

On looking over various examples of recent town planning, it does not seem that new principles are introduced, but a genial fancy plays around the customary elements. Yet there are some further considerations which might benefit those who will have to live in the new dwellings. Let us begin with the suburbs, and then pass to the city.

The first object must be health, and a main factor in that is plenty of light. In this climate we should conserve all the light we can, and distribute it as much over a room as may be. The imperative need is a low horizon opposite all windows, so as to let light far back in rooms. The gloomy effect in London street houses is due to the opposite houses cutting off all direct light, except close to the windows. In the suburbs trees should never be planted before windows, only low shrubs at most. In planning an estate for building, the first thing is to plot in all the surrounding houses and trees that cut the light; and then lay out the houses near the boundary with clear lights before and behind. After that the houses closer in can be put so as not to cut the lights of the others. Finally the map will be a crossing of light avenues in all directions, with the houses where no two avenues intersect. The trees can then be planned in on all the triangular spaces not touched by the light avenues. This method for the sake of health will naturally result in the houses standing at all sorts of angles, with no two parallel. Such irregularity is an advantage as preventing echoes, and will give a greater feeling of space and privacy.

The coming of the long motor-car has altered the elements of narrow roads. To get turned at right angles into a house drive, a car will back across the road, and need to stop the way while wriggling in. The remedy is to make all by-roads slightly wavy, and turn the drives off at contraflexures, like the branching of a vine pattern. So long as the waviness did not exceed the width of the road, but left a path of clear vision from end to end, there would be no danger in driving. The wave would entail a lower pace than on great high roads, which would be an advantage to the neighbourhood. On roads nearer a city, where houses must be close together, there seems no reason for the ugly habit of placing them all parallel to the road. The disadvantages of the usual face-to-face plan—retained in garden cities—are: (1) Houses look directly into each other; (2) repeated echoes of every sound make the road noisy; (3) the opposite houses make a high horizon, and cut the light off the lower floors, and backs of rooms. All of these objections can be more or less avoided by setting the houses askew to the road, so that each house has a lower horizon, and looks at the blank sides of the opposite houses; also no echoes are continued by repeated reflections. Each

house would thus have a triangular garden in front, and a triangle at the back, quite private and not overlooked by neighbours. In one instance the skew plan was long ago adopted, and with much success, at Lee Park, Blackheath.

Now to pass to the city, where for reasons of space the houses must be parallel to the street. Here we already see various tentatives breaking the uniformity of high parallel facing walls. If there have originally been gardens in front, then ground-floor shops are run out. Glazed rooms fill the courts at the back. On the top smaller structures are often added. Mansard roofs are used so as to give a little more light opposite by retiring the sky-line. Why not meet all those tentatives by a regular system of giving each floor its own share of sky space? We need to get all the light, and not to waste it on opaque roofs. We should thus arrive at a system of having a main structure set back 20 feet from the street, four floors high; in front a two-storey light structure projecting 10 feet, and a single storey 10 feet before that, reaching the street. On the top of the main structure would be another light structure receding 10 feet from the main face. Thus the sky-line would be 30 feet retired from the street; and the ground, first, third and fourth floors would all have 10 feet space of clear sky-lights. With a narrow street of 50 feet between frontages, the sky-line would be 80 feet distant at the ground front, and the lower floors would have abundant sky-light also. The same stepping-up of the floors would be made at the back. There need not be a square foot of sky aspect lost. For health, economy of lighting, and cheerful effect, the gain would be enormous. A further possibility might come in. If public moving stairs to the second floor were put at each main crossing, and light iron bridges placed across the streets, a complete new business frontage might be made for foot passengers, who would walk all over the city on the second floor, shopping without descending.

Above all let us avoid the unhealthy error of Paris planning, where streets far too wide for use in front are got at the cost of having gloomy, foul, unwholesome wells, only a few feet wide, to light the backs of the houses. Let us remember that every city has three choices before it; two of these may be partly reconciled, but all three cannot be possible together. You may have (1) acres of empty asphalt in front, the choice of Paris; or (2) plenty of green squares and gardens with narrow streets between, the choice of London; or (3) equal space and light back and front, which has been also largely attained in London. If we want to imitate the Paris spaciousness of asphalt, we must sacrifice squares and light backs, which are far more important for health. Both London and Paris are already impossibly extensive for real use; the time required to go from part to part almost defeats the utility of being a single centre. To inflate the size further by trying to have too much empty space inside would be hopeless.



Lately we have been told that there is no way to deal with crossing streams of traffic, except by a tunnel, or by holding up the traffic in alternate directions, as we do in London. Why is not a circus used for its obvious purpose? If crossing streams fell into a circus, and were all compelled to go round a central block in one direction—clock-wise to fit our rule of the road—then each vehicle would drop out of the stream when it came to its intended street. Practically none would have to go round three-quarters, as they would short-circuit by by-streets before reaching the circus. All that would be needful would be for the threads of traffic to plait past one another as they circulated in one direction, so that those leaving the circus would fall out on the left of those who were going farther: this would be easy when all were passing in one way.

There is nothing more beautiful than an exquisitely proportioned sea-shell, yet that is solely the product of meeting the vital and mechanical necessities of the animal. Let us take heart, therefore, and believe that in meeting the necessities of man as exactly as possible, we shall find that the result will satisfy the æsthetic sense of those who benefit by it, even if it clash with our traditional conceptions, derived from life under very different conditions in the past.

## THE GREATER RENAISSANCE.

Mr. Burns Dick's Presidential Address to the Northern Architectural Association.

"Victory!"

"War," "Victory!" How these words of awful import and of impassioned exaltation have alternately echoed, without cessation, adown the ages. No sooner do the vibrant tones of "Victory" fade into silence than the murmuring thrill and throb of ceaseless strife swell out again with increasing volume, obliterating the memory of the momentary respite.

Victory is ours! Our foot is on the neck of our foe! And must we cast aside the weapons we have used to such good purpose? Never! We pause for breath, these self-same weapons must be given a keener edge, and once more with renewed energy must we enter the fray.

Four years ago I took the presidential chair, under the black pall of what has proved to be the most bloody onslaught that man has made on man; and on that occasion I breathed war at you, I dragged you through ages of it, I shouted "Up, Guards, and at 'em!" I appealed to the fit amongst us, in the most impassioned language I could command, to fling themselves into the battle for freedom. And well have they responded to the nation's call. And now after these four long and awe-inspiring years, years that epitomize the suffering and tragedy and glory of mankind, I come again, when the darkness has given way before the rising sun of peace, and with "Victory" still echoing round, and cry "On to the fight!"

Again, War; but this time the war of peace, and once more the victory must be ours. It cannot be won without a struggle, and the weapons are still those that have just conquered: Faith in the righteousness of our cause, enthusiasm, imagination, courage, patience, sacrifice, labour, a fiery zeal, an ever alert intelligence, inventive-

ness, receptiveness, idealism, unity of purpose, and a stern repression of those weaknesses of our nature that ever tend to mar our success. Truly a formidable array of qualities, but all needed in the national reconstruction, the necessity for which we are all so conscious of. And national reconstruction involves the reconstruction of every institution that goes to make up the national life and character. Our particular work, by its very nature, cannot be ignored. It is called upon to express in visible form a large part of a people's activities, and a talent with which we are entrusted must be put out to usury if we are to earn in approbation, "Well done, good and faithful servant."

Though, individually, we may not be accused of inertia, we have been growing more and more self-centred, with a corresponding loss of appreciation of the advantage, to ourselves, to our art and to the common good, which community of thought and action confer. A creeping paralysis has resulted, and the war has revealed, as nothing else could, how the value of the architect as a national asset in peace as well as in times of stress, has gone down in public estimation. We have clearly failed to impress the lay mind as to the essentially practical nature of our work. How far that is due to our failure to be practical is a matter requiring grave consideration. It may be that we are too apt to obscure our real knowledge and application of the practical needs of the time by an over-emphasis of that other most essential quality that differentiates us from mere builders. We must now aggressively demonstrate that side of our work that will appeal to the work-a-day mind—that the problems involved in fitting the structures of our time to the needs that arise, and in facilitating the smooth flow and development of industrial and social life, are just those that our training is designed to solve, but in addition, that in the solving of these problems we can be trusted to give an expression that will satisfy and draw out and inspire the higher and spiritual side of our people's dual nature. We must demonstrate our practical qualities. But do not let us rush off to the other extreme. I know that we are in the main very practical, and that you are likely to think that much of what I have said is mere rhetoric, idle and impractical. But I am convinced that this is the time of all times when we must give rein to our imagination as a preliminary to a greater and more far-reaching understanding of the demands of a practical world. Be as practical as you like, but without imagination, enthusiasm, and something of that divine afflatus that transcends so-called common-sense and reason, you'll never achieve the work that lives. Sir Christopher Wren was essentially practical, but with the astronomer's training and outlook his imagination must have learned to roam beyond the confines of earth into the illimitable spaces of the spiritual universe, ere his great creations in stone took shape and immortalised him.

But if we have failed to assert our place in the national structure to which it is by right of birth and lineage justly entitled, our failure has been more due to the age than to ourselves. The conditions of life are ever changing, and the force and direction of the varying movements cannot be divined with the prevision that would enable us to conform immediately to the necessities that arise. Yet from time to time in the march of man there comes a great awakening, a sudden illumination and agitation of his spiritual ego, a flash of inspiration, the revelation of his failures and a re-gripping of lost faith, and an enthusiasm for the attainment of old ideals that had become obscured and for new that were revealing themselves—a re-birth with the surging optimism of youth.



I believe we are now in the throes of one of those great cosmic disturbances—the periodical joining of issue of the two fiercely antagonistic elemental principles of nature: Right and Wrong; giving, as with the thunder of physical disturbance in the atmosphere, the flash of lightning inspiration—consuming but clarifying.

It is this new illumination that I want to see enter into the affairs of our Association. Even before the war, we were undoubtedly losing something of that responsiveness and keenness so necessary to our position and progress; and with these long years of strife, our very life's blood has been draining away on the wider plains of national preservation; another winter session has dawned upon the lowest stage of vitality yet reached. Only the richness of the old blood has kept the spark of life pulsating, and only a few short months ago there was an air of detachment as to the result, that boded ill. To-day the crisis is here—but it is not the end, it is the beginning of a new life. Never again will so great an opportunity present itself. Will any of you hesitate to offer yourselves for that transfusion of the vital essence which is yours to give, and which will give a new and greater lease of life? It rests with each one of you who read this to respond, and I doubt not the answer. We must seize this opportunity—this pause between the end of the fight and the beginning of the new effort—this, the time of grace that will never present itself again, when we may visualise the goal to be won and gather up the energy necessary for the forward move. Soon we will have to take up the practical issues that await us, but I shall confine myself to-night entirely to appealing to you to bring the new emotions, that are stirring each of us, to a common stock, where their combined volume will result in that high faith and enthusiasm that must inevitably lead us to power and influence.

I am convinced that the curtain is rising on a more brilliant act in the drama of the human race than any that has gone before. This is a new birth, the opening phases of a greater Renaissance. Think of it! To realise this mighty time is to have discovered what the philosophers and alchemists have blindly sought in vain for ages. We have learned the secret of perpetual youth. It is for us, if we will, to weave ourselves into the pattern of this Greater Renaissance, and just as long as time we are indissolubly one with it; we are immortal. The forces of reaction and ruthlessness are for the time beaten to the earth, but the miasma of these beaten forces is rising and will continue to rise around us unless we take steps to clear the ground of the things that would still live and flourish in their putrefaction.

Let us get rid of the old shibboleths, the old prejudices, the petty rivalries, the unworthy jealousies, the disproportionate sense of our own dignity, the too sensitive solicitude for our *amour propre*, the cynicism of disillusion—disappointed hopes, and all the devil's brood that we are prone at times to consort with.

If we are going to build a new Association, we must make a clean sweep of the old structure. It is reconstruction, not patching and repairs and the retention (from sentimental, archaeological or parsimonious reasons) of the old structure that served its day and generation well. None should know better than we the handicap that the retention of the old building puts upon us when we have to meet changed and vaster requirements.

What of the traditions that the unselfish labour and devotion of our predecessors have bequeathed to us—this institution they have built up and handed over to us? Have we to sweep all that away? Let me answer by

another question: "Did the mediæval guilds, who gave us those wonderful monuments of which we are so justly proud, hesitate to sweep away the buildings of their predecessors when they stood in the way of the desires of a more enlightened age where their increasingly developed skill and genius could be exercised?" Had they hesitated to do so they would have been unworthy descendants of the great school of craftsmen they claimed to perpetuate. Did they keep on repeating outworn forms because their forefathers had stamped them as the most perfect expression of the genius of their age? It is the spirit, not the form, that must be handed on. Then sweep the forms away; they once were good, but are of no more use to us than was a Norman vault to the daring genius who conceived the fan vaulting of Henry VII.'s Chapel, or the roof of the Parthenon to the Byzantine Greek who gave us the wonderful covering of St. Sophia. One was the forerunner of the other. The same spirit worked in them both. Of each it can be said, "They build well." Let the same be said of us. Away with the dead things of the Past! We are the living Past. Look to the Future! We are the Future in the making.

The time is ripe. Let us build well, with an eye to the requirements not only of our own time but to those of the future. No doubt our work will have to give way before the march of progress, but how long it will last will depend upon the breadth and depth of our vision. Do not misunderstand me, I am not asking for an altruism that gives all and asks for nothing. The unselfishness that leads us to neglect ourselves will not do much good. The N.A.A. was not formed solely or mainly with the idea of instructing, regenerating, or conferring a blessing on this or any other generation. It was for the mutual benefit of its members, from a love of our art, and with a desire to foster a greater interest in our work on the part of the public. This can hardly be called disinterested. But this sort of communal selfishness is just that that makes and develops a people. We want our share in the joy of life and this is one way of getting it. We must encourage a more intimate association one with another. Life is a fire that smoulders, glows or flames. We want some of its intensity. Well, we will never get beyond the smouldering stage if we stick in our lonely furrow. We are all different, with potentialities as diverse as flint and steel and tow, and oft as inert if kept apart. Let us therefore come together, striking wit against wit, so that our ambition, our enthusiasm and imagination, may take fire at the contact, and be fanned into a steady flame by a faith in the destiny that awaits us and our successors. If we can catch and hold this fire, who can put a period to our achievements?

#### Supervision of Concrete Construction.

A series of "Recommendations to Inspectors, Clerks of Works, and Foremen, concerning the execution of concrete works," has been issued in pamphlet form by the Concrete Institute which should be of value as containing in condensed form essential memoranda regarding the general principles of reinforced concrete construction, the supervision of work in progress, including notes on formwork, the setting up of reinforcement, the mixing and placing of concrete, and the testing of materials and construction. A specimen diary is also added which it is recommended should be kept by the works supervisor in the form of a daily report.

## REVIEWS.

## THE EXPRESSION OF A PERSONALITY.

*Where the Great City Stands: A Study in the New Civics.*  
By C. R. Ashbee. 40. Lond. 1917. 21s. net. [Essex House  
Press, 37 Cheyne Walk, Chelsea; B. T. Batsford, 94  
High Holborn.]

While all writings of any value must exhibit to a greater or less extent the temperament of their author, it is generally possible to regard them from the objective standpoint and to avoid the dilemma that criticism of the book must imply a review of the mentality of the man behind it. With the works of Mr. Ashbee this position is not open to us, as to the utmost conceivable extent the book and its author are one, and what is said either by way of praise or blame must be said with the recognition that it will support or challenge the innermost feelings of one who has given his point of view so frankly and unreservedly.

The knowledge of this lays a heavy task on the reviewer; his responsibility in comprehending accurately and sympathetically is so definite that no issues may be shirked or slurred over. Moreover, the work before us is so admirable in its aim, and presents its case with such vivacity and charm, that we are almost driven to acquiesce and limit the review to a summary of the propositions put with such an inviting reasonableness. In any case the purport of the book must first be indicated, as the title, *Where the Great City Stands*, hardly conveys its full intent even to those acquainted with the poem by Walt Whitman by which it is suggested.

The opening definition of the aim of the book runs as follows:

The object of this book is to fix public attention upon the aesthetic movements of our time, to find out what they mean and how they are interwoven or lead one into the other. It is an attempt to show what lies behind the City Life, and the obverse of this, the new life of the country, agricultural or suburban. . . .

The book does not purport to be technical. It is not a book for experts. It is written by an architect who has spent most of his professional life in designing, building, planning, or, better still, in trying to feel his way through the difficult Arts and the social force those Arts reflect. The architect is at best an interpreter. It is a part of his job to understand the life that goes on around him, to make it a little nobler here, a little less squalid there; to help people to live, while himself living and creating to the top of his bent. This practical poetry of life is what he has to aim at and realise in himself and others. The different movements—esthetic, social, political, religious—through which we pass, then, are among the things he has to try to understand. His own work—it may not be much that he does—will be better by understanding the life that goes on around him, be a finer interpretation of that life and its needs.

Chapter II. consists of a series of axioms to which frequent references are made. Chapters III. to XI. summarise artistic history of the last seventy years, Chapters XII. and XIII. the ideas underlying Town Planning and the Garden City, and Chapter XIV. the influence of the Orient. The general trend of Chapter XV. may be hinted at by the following extract:

"The truth," say the psychologists, and those of us who try to synthesise, "is that Art is life." "La loi interne de l'Art, c'est de produire une émotion esthétique d'un caractère social."

Art is not merely painting or making frills. Nor is it merely our life, the life of one nation or group of Western nations. The East also has its culture; remember Visvakarma, the God of all the Arts of life. Thus understood, everything falls into place; the conflicting arguments and jarring schools coalesce.

Will not all then say together: "Let us build our cities nobly. Let us have our drama, our dance, our music, our smaller personal crafts, based on what is intimate and illusive, as well as our great architecture and engineering based on what is standardisable through mechanism. We must master the mechanism that now enthalls us. We must free the individual from the machine."

The synthesis of our various movements, then, takes some such form as this: The freeing of the individual and the freeing of the Arts from the competition of mechanism are one. They are part of the same life process. The appeal to feeling is true, the appeal to personality is true, "Art for Art's sake" is true, if taken as an artist's gospel only; true also are the economic appeal and the ethical appeal; it depends on how they are presented.

In Chapter XVI. we come to the material organisation of the city, and its main argument may be gathered from the concluding paragraphs as follows:

The old cities had distinction because they had a life—a civilisation that had found expression. We have but to look at such as are, or were until a year or two ago, left to us. Furnes or Nieupoort, for instance, or Louvain, or Arras, or Nancy, or Ypres, that classic city of the Flemish guilds. With the cities of the Post-Industrial period it is otherwise. How many can we not recall! They are merely vast villages industrialised, and the life led in them is a monotonous and commonplace life, uncultured, uncivilised. If we trace the men and women who live it, back through the last two generations, we shall find not the Puritan father, nor the idealist of revolutionary Paris, not the city of the dignified little German eighteenth-century State, but the European peasant. Throwing off what culture his ancient peasant order gave him, his peasant garb, his folk music, his handicraft, he is now mesmerised by mechanical power and the apparent freedom of a new world. His essential peasant quality alone he retains, the power meanly to grow rich. But he has no city—he remains uncivilised.

And so the practical man's question remains only in part answered, because he is himself only in part civilised. These things are accomplished little by little and from within. They have to be understood first, and as a whole. . . . One city helps another, and the growth and decay of cities, as history teaches, helps us all; but let us first understand the problem as one of civilised life.

Chapters XVII. to XX. deal with the lapses in the city structure and consequent waste and disorganisation, but we cannot dismiss them with this brief definition of purpose. While nominally critical they are full of reasoned argument as to cause and effect with many an exploration into possible roads for our escape in the future. These explorations focus themselves more definitely in Chapter XXI, on co-ordination in the City, on the lines of the following extract:

A community too engrossed in the petty affairs of business is not using the best of its brain force; vital energy is being misapplied, going to waste. We see how this works in many ways. The fierce competition throws a number

of men and women out of the running; they have given of their best to certain specialised work, and now there is nothing further for them to do. We see it in the absence of leisured "parerga"; young folk have few intelligent recreations. It is here that the Arts help to correct the atrophy that we meet in every rank of life. Men use their legs only, or their arms, or their eyes. These thousand and one "specialists," what dull dogs they are—each his speciality, and so ill-educated! Too much concentration weakens the rest of our power—it does not give us all-round, hard-headed, warm-hearted human beings with the needful resistance and sympathy.

This new, co-ordinated, as against the old competitive way of life means a new method in civics—it means the æsthetic synthesis. We have now to consider all the scientific data, all the inventions of the industrial era, test them, and re-apply them to the life of man as a citizen.

We later artists wish rather to create a community the basis of which shall be the reconstructed city life—a life in which, because mechanism has been mastered, the Arts once more take their proper place, and in which town and country are rightly related to each other. The method and order of Syndicalism is needful for us artists. We cannot become effective unless we organise. And, because we are here to check mechanism, our influence upon life, if we were organised, would be much greater than ever was that of any ancient Guild.

In Chapter XXII., on the Control of the City, it compares the old methods of France, England and America with the newer organisations of Germany controlled by paid experts and of America with its commission of selected men. No pronouncement is made in favour of any one specific form of organisation, the author indicating his general view in the following paragraphs:

It is not for cobblers to lay down rules in sculpture, architecture, medicine, husbandry, housewifery. Few lessons of the war have been so convincing as that of expert control, provided we have co-ordination. The two admittedly successful factors at the beginning of the war were the German military machine and the British Navy. These were prepared years before by experts, not by cobblers. But if the war's first lesson has been that we must put the development of our cities, our education, our Arts, into the hands of experts, it was not the only lesson. If we have to take the management of these affairs away from the cobblers, and turn them over to the people that understand and study them, we have to do this without destroying the democratic principle, or we slip out of the Anglo-American frying-pan muddle into the German fire—militarism. . . .

If, then, I were asked what were the three most important problems ahead of Democracy, I should say first the righteous organisation of "Big Business," next the finding of an economic basis for the Arts, and, last, the creation of a machinery for the policing of the world. Only by solving these three can we protect democratic civilisation. The concern of this book is primarily with the second, but it is impossible to ignore the other two. In the first is involved the whole question of labour unrest and social reconstruction, for I use the word "righteous" as the reverse of anti-social. But, however well we reconstruct, it is not enough. The righteous organisation of big business—our factory system, how well so ever we reconstruct it—will not fill the bill of human need, if we ignore the motive of human joy and the longing for individual creation. The third problem is in a way the most immediate, though perhaps its solution is far ahead. It will secure to the democracies of the world a means for working out the other two."

The remaining chapters are the most definitely personal in the book, expounding, as they do, the author's views as to the place of the arts in the civic economy, the methods by which these arts may be

developed, their reactions on the individual, the correlations between them, and their linking up with the basic structure of the city.

Following up this in natural sequence is the relation between the country village and city and the advantages open to the smaller community in fostering a complete and many-sided form of life.

In witness, the following may be quoted:

Rural England now is at the parting of the ways. The one road leads to a suburbanised England, artificially held together by an American bastard feudalism, first invented in the eighteenth century, in which cottages and country houses are bought up by week-enders, and artificial England, such as it was before the final *debacle* in 1914, and somewhat as H. G. Wells draws it in *Matchings Easy*. The other way leads to a real country life—an England free of caste, such as perhaps Sir Horace Plunkett, or Christopher Turner, or a few of the more intelligent landlords want it to become. Such men have made the discovery that the English landed class, in allowing the real peasantry to be destroyed, have been "putting their money on the wrong horse." They have allowed brains, intelligence, constructive purpose, imagination, to go by default. It is questionable now whether, in face of the gathering storm that is soon to break upon them from the city, they will succeed in saving themselves. . . .

Much thought and intimate knowledge of the details of people's lives, such as an architect has to have whose business it is to know about people's dining-rooms and kitchens, how they amuse themselves and order their conduct, and to know this in many social grades, convinces me that what we need is an altogether new mode of life: a mode in which the tone is no longer set by the rich country house, but in which rich and poor—for there always must be rich and poor—can play their part without invidious distinction. The measure must no longer be our property qualification, but our common citizenship, and how we live it.

It will be recognised that it is by no means an easy task to present an impression of a work ranging over so far a field by means of a brief summary even with the aid of such extracts as space admits of, and we can only refer our readers to the book itself if they feel, as probably they must, that it is vital to the study of the position of architecture and the kindred arts in relation to the life of a democratic people.

We will only add this warning, that no cut and dried theory is to be expected; hints and suggestions innumerable will be found, but it is not the author's method, and any sympathetic reader will see that it is inherently at variance with it, to close and tighten up every argument so as to propound a conclusive philosophic solution of the questions dealt with. This is left to the future, and probably the instinct is right that in a period such as the present avoids an attempt to forecast the exact direction in which the contemporary conflict of ideals and interests will eventually carry us. We may be inclined to challenge some of the views expressed, some of the lines of argument, and may even doubt whether the basic axioms can be accepted as axiomatic. But this is not the main point; a book contributing so much to the activities of contemporary thought is not to be judged by its rightness in every opinion and in every process of statement, but rather by its stimulative value and its provocative quality.

H. V. LANCHESTER [F.]

## CORRESPONDENCE.

Mr. Raymond Unwin's Paper on Housing.

10th February 1919.

*To the Editor, JOURNAL R.I.B.A.,—*

SIR,—I have been much interested in reading Mr. Unwin's Paper on Housing, which I was unfortunately unable to listen to in person, but I am sure that he will not object to some remarks being offered by me in connection with it.

The value of Type plans is of course obvious, but the disadvantages are also obvious, where there may be a predisposition on the part of some architects to avoid thinking for themselves. I will try to make my meaning clear by offering some criticisms upon the three types which accompany Mr. Unwin's Paper.

*Type No. 1.*—The best features herein are the placing of the scullery, coals and W.C., but the living room would be found in practice to be not only very crowded, but I am prepared to say that it would soon become, in the occupation of the average tenant, very slummified; the result of such a plan would either involve a most draughty room or, alternatively, all means of air and ventilation would be stopped; the only naturally comfortable position is that which may be regarded as allocable to grandpa, viz., the armchair place; father and mother, near by, are next best (and this is as it should be), whilst Bob, the eldest boy, is most uncomfortably placed at the side of the table. Sister Susie, opposite father, and near the fire, is not to be envied, but William, her neighbour, is almost as badly off as Bob; of course the two youngest children must fare as they can. May I say that in christening the family I have in mind the greater ease for future reference? The entrance passage is very confined, and might well be larger by omitting the basin in bathroom and reducing the size of that compartment.

*Type No. 2.*—Here again, grandpa comes off best, and Bob is badly treated once more, whilst father and mother are in the path of the next worst draughts, though there is little, if anything, to choose in this respect between their placing and Susie's and William's. The bathroom is satisfactory, as also the W.C.; and the bedrooms are better than in the previous type. The entrance is very poor, and the amount of bad language that would be heard in the house is fearful to contemplate.

*Type No. 3.*—This type is not only superior, but has everything in its favour, except that there is a right-hand light for scullery, nor is the relative position of the W.C. with the living room ideal; but one cannot have everything in a restricted area. The doors, too, are properly hung in this type.

*Type No. 1a.*—The door-hanging here is very badly arranged, but this detail does not affect the merits otherwise of the type.

*Type No. 2a.*—The scullery is distinctly ill-arranged for lighting, and is also not much else than a passage

way; the bath placed in the wash-house is thereby inviting its use as a receptacle for clothes-washing.

*Type No. 3a.*—The w.c. is in one of the worst possible positions.

So far the criticism has been more destructive than constructive; I will just offer a few remarks of the latter nature, premising that Mr. Unwin's views as expressed on page 55 are very sound; but the diagrams on the same page are less sound than his remarks; it is not often that the table would be placed against the wall, but more or less centrally in the room; the door-hanging should, in fact, be just opposite to what Mr. Unwin designates respectively "convenient" and "inconvenient," for on opening a door as little of the room should be disclosed as possible, and in order to avoid too close contact with the wall on entering, a door should, whenever possible, be kept at least 1 ft. 6 in. from the return wall. Now, reverting to *Type 1*, though outward opening doors are not ideal for rooms in houses, yet here the living-room would be all the better were its two doors so hung. Mr. Unwin rightly says that the stairs should be easy; it seems to me that those in *Type 1* must have 8 in. or 8½ in. risers. Apologising for length of letter.—I am, faithfully yours,

PERCY L. MARKS, *Licentiate.*

Captain, 7th Batt. London Regt. Cadet Corps.

## Housing and the Minimum Standard of Comfort.

11 Marshall Place, Perth.

*To the Editor, JOURNAL R.I.B.A.,—*

DEAR SIR,—The present general interest in the housing problem is largely due to our realisation that every class of the community is entitled to a chance, at any rate, of living a decent, healthy and self-respecting life, and that the arrangements which make this possible must be put within reach of all, and not regarded merely as a perquisite of gentility. Therefore, before tackling the various details of the problem, it will surely be worth while to decide what is the minimum standard of comfort which every worker's house shall provide. This once established, even if it should not prove possible to insist upon it by legislation, we can at least ensure that designers of houses shall recognise it, by seeing that no design is premiated in any reputable competition which does not come up to this standard.

Certain requirements are already tacitly recognised—no self-respecting architect, for instance, would show on paper a larder entirely unventilated, or an outside door opening direct into the main living room—and I would suggest the following additions:—(1) Every house shall have sufficient wall-space in the entrance lobby to allow for at least half-a-dozen coat-pegs; (2) and there shall likewise be provided in every case a sufficient and convenient space to contain a bicycle and a perambulator (many designers appear to take it for granted that a family can only possess one or other of these articles: this is a misconception);



(3) sanitary conveniences should be accessible without going outside the house, but must in any case be reached under cover.

The last point is the one I wish to emphasize, and it is still far from general recognition. The report of the Board of Agriculture's Advisory Committee on Rural Cottages (1915) publishes 21 selected cottage plans by different competitors; in only three of these is the water-closet or earth-closet accessible from inside the house, and in one other it is reached under cover. True, most of the remaining designs allow only for earth-closets, whose position is often restricted by local enactments, but even so there is no valid obstacle to scheming a covered approach.

In considering the design of workmen's houses, let us keep in mind the fact that they will be inhabited by somebody's wife, somebody's aged mother or father, in sickness and in health, and in a climate which has its full share of rain, snow and cold wind. And don't let our own better judgment be talked down by the "common-sense" critic, who, still chuckling over his discovery of coals or potatoes stored in the bath, will tell us that "that class of person doesn't mind." The five families who were found sharing one room in a Glasgow tenement didn't mind—until the family in the middle of the room started taking in lodgers. If wider and progressive views are not to have their chance in these years of reconstruction, vainly indeed do we hope to "build Jerusalem in England's green and pleasant land."—Yours, etc.,

A. L. N. RUSSELL [A.].

#### R.I.B.A. Finance.

Guildhall, E.C., 6th February 1919.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—I was delighted to see Mr. E. Percy Hinde's letter in the JOURNAL of last month, for the more we ventilate this subject the better.

I heartily agree with his second paragraph, emphasising the benefit of close contact with the Provincial Societies. I am strongly of opinion that the President of each great Allied Society should be an *ex-officio* member of the R.I.B.A. Council, and further that a by-law should be passed that periodically the President of the R.I.B.A. must be a provincial man.

Mr. Hinde objects to my statement that "Last year the R.I.B.A. spent £399 9s. in contributions to Allied Societies (excluding the allowances to their Presidents)." He refers to it as a "so-called contribution" and then states "the truth is then that the R.I.B.A. does not make any contribution to the funds of the Allied Societies and it does not finance them in any way whatever." I know the Institute pays them the money, for I have signed many of the cheques, but if your readers would like a perfectly unbiassed and impartial opinion of the transaction I ask them to refer to our balance sheet, signed by an eminent firm of chartered accountants. In the April number of the JOURNAL for 1918, on page 139, they will read under the heading "Expenditure," "Contributions to Allied

Societies, £399 9s." It is true that last year a note was added—such a payment needs an explanation.

If I join an Allied Society, having a subscription of £2 2s. per annum, I should be admitted half price, and our unfortunate Institute would be forced under By-law 82 to contribute £1 1s. per annum to the Allied Society. Why should it?

I want By-law 82 rescinded, and I want the Allied Societies to help me, for as long as the present system continues they cannot have the weight in Institute matters they should have, and which they would have if they were entirely independent and self-supporting, and under no obligation, direct or indirect, to the R.I.B.A.

In my last letter I purposely exempted the payments to the Presidents; the system is that the R.I.B.A. pays half their travelling expenses and I presume the Allied Societies pay the other half, so that these gentlemen who give up a considerable amount of time should be put to no personal expense.

I quite agree with Mr. Hinde's last paragraph. I pleaded for the Architectural Association because of its financial position. I hope no similar institution in the provinces is in the same state.—Yours faithfully,  
SYDNEY PERKS [F.].

To the Editor, JOURNAL R.I.B.A.,—

28th January 1919.

DEAR SIR,—Now that the war is practically over, and Government controls and licences are being rapidly swept away, it is felt by many members of the architectural profession that some kind of recognition is due to Mr. Ernest Newton for the invaluable services which he has rendered to the profession, the building trade, and the country in general in administering the building licence regulations issued under "D.O.R.A.," and for the unvarying and unfailing courtesy, tact and consideration which he has shown in dealing with all applications during the whole period that the Order was in force.

It has accordingly been decided to present Mr. Newton with some form of testimonial, and in order that all who desire to associate themselves with such gift may have an opportunity of showing their appreciation, the subscription from any one person is limited to half a guinea, or any less sum.

I have been requested to act as Hon. Treasurer in this matter, and shall be pleased to receive subscriptions at the R.I.B.A., 9 Conduit Street, W.

Yours faithfully,

LEWIS SOLOMON [F.].

#### "Byzantine Splendour"

Mr. A. E. Henderson, R.B.A., F.S.A. [Owen Jones Student, 1897], writes that he will be pleased to supply members with reproductions of his picture, "Byzantine Splendour," which has been hanging in the hall of the Institute for some time past. A specially made negative is to be prepared measuring 35 inches in height and the price of carbon prints from this will be 1½ guineas each.



9 CONDUIT STREET, LONDON, W., 22nd Feb. 1919.

## CHRONICLE.

The R.I.B.A. Record of Honour: Fifty-ninth List.

### *Died of Wounds.*

**IXER, Lieut. SYDNEY HOWARD, R.N.V.R. [Associate].**

Died on 20th August from effects of injury received on active service.

Lieut. Ixer, who was elected an Associate of the Institute in 1909, was a pupil of the late Professor Roger Smith, and after working under various London architects obtained an appointment as Assistant Engineer in the Public Works Department at Hong Kong. He also became lecturer in building construction, surveying, &c., at the Hong Kong University. Early in 1916, after many applications to the Governor of Hong Kong for release, he came home to join up for war service, and was appointed to a patrol boat working on the north coast of Ireland, subsequently being promoted full Lieutenant and appointed to H.M.S. *Constance*. He died suddenly at Haslar Royal Naval Hospital on 20th August 1918, from the effects of an injury sustained in a storm on the Irish coast.

**WALLER, 2nd Lieut. THOMAS JENKINSON, Northumberland Fusiliers, Student.** Died from wounds received in action.

Lieut. Waller served his articles in the office of Mr. J. G. Burrell [Licentiate], Durham, and was an associate of the Northern Architectural Association. He joined the Army in 1915, subsequently receiving a commission in the Northumberland Fusiliers, and went to France in 1917, where he saw much service.

### *Killed in Action.*

**JANE, Major WILLIAM, R.E. (T.) [Licentiate].** Killed in action.

Major Jane, who became a Licentiate in 1911, was in America at the outbreak of war, and although then fifty years of age came home in 1914 to enter the Army, obtaining a commission as Captain in the Royal Engineers (T.) in that year. Joining a Field Company, R.E., he went to France on 15th August 1915, was wounded, and returned to England. Having obtained his majority and been given a company he went to France again in 1916, and was later invalided home. After a period in England he once more went to the Front, and was killed while on service early in 1918. Major Jane was a partner of Mr. H. F. Price, of Weston-super-Mare, and carried out various school buildings for the County Education Committee, as well as a number of other works in the town and district.

**PENDEREL-BRODHURST, 2nd Lieut. BERNARD RICHARD, R.E. [Student, 1913].** Killed in action on 1st October 1918.

Lieut. Penderel-Brodhurst, second and only surviving son of James Penderel-Brodhurst, editor of *The Guardian*,

was shot by a sniper while emerging from a communication trench. He was a pupil of Mr. Mervyn Macartney [F.]. Joining the 13th London (Kensingtons) a few weeks after the outbreak of war he afterwards exchanged into the Artists' Rifles, from which corps he obtained a commission in the Royal Engineers. A brother officer wrote of him: "His was the best type of bravery. He knew what shells and bullets could do, and feared them accordingly, but it never made any difference to the carrying out of his work." "His architectural knowledge made him specially valuable to the Royal Engineers; and he devised a light bridge, 20 feet long, light enough to be carried by one man, but strong enough to bear three men at once."

**WOODHOUSE, Capt. C. H., York and Lancaster Regiment, Student.** Killed in action.

One of the many gallant men who, in this war, have freely given their lives in the knowledge that they were fighting the battle of right against wrong, Captain C. H. Woodhouse made the supreme sacrifice on 6th June 1918. Born at Leicester, on 18th May 1891, he was the only son of Mr. and Mrs. Vivian M. Woodhouse, of The Old Hall, Queniborough, Leicestershire, and was educated at Mr. Rudd's, Stonegate, Leicester, and at the King's School, Canterbury. Soon after the declaration of war Captain Woodhouse joined the Army, and was gazetted Sec. Lieutenant York and Lancaster Regiment on 1st November 1914, being promoted full Lieutenant on 17th March 1915. In December of that year he went to Egypt with his regiment, and after some months there was sent to France, where he was in the trenches and firing line until he was wounded on 9th April 1916. He was again with his regiment and severely wounded whilst leading his men in the historic advance on the Somme on 1st July 1916, being then invalided home. After some time in hospital he was in England on light duty and home service for two years, and during that time did good and valuable work for a certain period as an instructor. In May 1918 he felt fit to be again at the Front, and on the 13th of that month rejoined his regiment in France as a Lieutenant, though he had been Acting and Temporary Captain, but this rank he voluntarily relinquished. On 5th June 1918 he led a raiding party against the Germans, from which he did not return, and was accordingly posted as missing. For three months nothing further was heard, and then his name came through from Bezin as killed on 6th June 1918. Many letters of high commendation for his work and keenness as a soldier were received by his parents. Captain Woodhouse was in the offices of Stockdale Harrison & Sons, with whom he was articled. An office associate writes:—"His loss will be deeply felt by all in our office, and the profession he had adopted will lose one who, by his singular gifts and great ability, gave rich promise for the future. His gentlemanly and unassuming manners, together with his endeavours by painstaking work to excel in anything he had in hand, made it a real pleasure to be associated with him. He unhesitatingly went forth at his country's call, and gave all he had to give." He gave the regal offering of his youth, and will live on in the hearts of the many who loved him greatly.

STOCKDALE HARRISON [A.].

### *Military Honours.*

**KEYS, Major P. H., M.C., R.E., Associate.** Awarded the Croix de Guerre for piercing the enemy's lines on 8th October 1918 and bringing back valuable information in spite of heavy shelling and machine-gun fire.

**RIDLEY, Lieut.-Col. G. W., D.S.O., 29th Durham Light Infantry, Associate.** Promoted Temp. Lieut.-Col., 13th September 1918. Awarded Italian Silver Medal for Military Valour on same date. Awarded D.S.O., November 1918.



Captain J. A. METHAM, R.E., *Licentiate*,  
Died on service, 12th November 1918,  
at Archangel, Russia.



Lieut. SYDNEY HENRY HOWARD IXER, *Associate*,  
Royal Naval Volunteer Reserve.  
Died on service (see p. 89).



Lieut. WILLIAM HAROLD WILLIAMS, *Licentiate*,  
Royal Garrison Artillery.  
Killed in action (see p. 44).



Private WM. JOHN LOWRIE, *Student*,  
Fifth Seaforth Highlanders.  
Died of wounds (see p. 44).



Captain C. H. WOODHOUSE, *Student*,  
York and Lancaster Regiment.  
Killed in action (see p. 89).



Lieut. C. H. HARTMANN *Associate*,  
Royal West Kent Regiment.  
Killed in action (see vol. 25, p. 250).



2nd Lieut. BERNARD RICHARD PRNDEREL-BRODHURST,  
*Student*,  
Royal Engineers.  
Killed in action (see p. 89).



Lieut. PHILIP KNIGHT, *Student*,  
King's Royal Rifles.  
Killed in action (p. 44).



TAYLOR, Capt. J. A. CHISHOLM, D.S.O., M.C., Manchester Regiment, *Student*. Mentioned in dispatches of 9th November 1918.

WOODWARD, Lieut. FRANK, R.E., *Associate*, son of Mr. Wm. Woodward [F.] is among the list of names submitted by the Commander-in-Chief, British Salonica Force, "for gallant conduct and distinguished service."

**Architects and Housing Schemes: R.I.B.A. Deputation to Dr. Addison.**

A deputation from the Institute, consisting of Mr. Henry T. Hare *President*, Major Harry Barnes, M.P. [F.], Mr. Paul Waterhouse, *Vice-President*, and Mr. Arthur Keen, *Member of Council*, waited upon Dr. Addison, President of the Local Government Board, on Friday, 31st January, to urge the employment of architects on the various housing schemes in course of promotion throughout the country. Present with Dr. Addison was Sir James Carmichael, whom Dr. Addison introduced as the newly-appointed Director-General of Housing in England and Wales.

Mr. HARE, having briefly stated the object of the deputation, went on to recall the invitation of the Local Government Board to the R.I.B.A. to assist them by procuring type plans for cottages in various parts of the country, and the fact that he (Mr. Hare) had then pointed out to the Board that it would be manifestly unfair for architects to provide typical designs if these were to be used by Local Authorities through their officials and without the employment of architects. The Local Government Board then gave an assurance that, while they were unable to make definite and binding stipulations, it was their full intention that properly-qualified architects should be employed in all cases, and that the Board's policy would be directed to this end. Notwithstanding this, continued Mr. Hare, information was being received from Allied Architectural Societies in various parts of the country that extensive schemes of working-class houses were in course of preparation by the officials of Local Authorities, which would in due course come before the Local Government Board for approval. At so late a stage it would obviously be difficult to deal with such as might not be satisfactory. He also called attention to the fact that practically all the housing schemes carried out satisfactorily during the war had been the work of qualified architects, and suggested that the Local Government Board should issue a circular to all Local Authorities urging them, as a first step, to appoint a competent and qualified architect. In conclusion, Mr. Hare called the attention of the Minister to the very strong recommendations as to the employment of architects in the Advisory Housing Panel's Memorandum presented to Parliament by the Ministry of Reconstruction in June last [Cd. 9,087].

Major HARRY BARNES, M.P., said that being not only a member of the Institute for many years, but

now a member of the House of Commons, he approached the subject from a somewhat different angle to that of the President, stressing rather the public interest than the interests of the profession. At the same time, he considered those interests a proper matter for regard, as the existence of a free and vigorous architectural profession was undoubtedly a matter of importance to the nation at large. In regard to the employment of architects by Local Authorities, which was the point to which his remarks were confined, he desired to say that in the housing of the future, while good planning and sound construction were of great importance, equal weight must be given to that indescribable element in design the absence of which in the past had inflicted upon this country the masses of dwellings of the supremely dull, dreary and monotonous character which formed so disheartening a feature in urban housing conditions. Architecture was an art, and whatever else might flourish under the administrative routine of departments the arts could not, and while from public officials might be expected, and would no doubt be obtained, a considerable advance both in planning and constructional conditions over those of the past, there could not be expected from men whose attention was chiefly directed to technical questions of utilitarian character the capacity to express in form those æsthetic and artistic values that made for pleasure and happiness, and which in the housing of the future must be amongst our chief concerns. Such freedom, such variety, such expression could only be obtained by the employment of qualified architects, and on this ground he supported the application made by the President.

Mr. WATERHOUSE said that he desired to emphasize two points—the first was that any avoidance of the use of architects in this matter would be a neglect of a national asset. The skilled experience of architects in house design and also in town planning was available, and should not be set aside. His second point was that the priority justly given to the housing problem meant the diversion to that enterprise of materials and labour which were required also for other classes of building. In fact, the supply of goods and of men to the housing schemes would increase the existing difficulties of architects in other spheres of work, and it would be an additional hardship to the profession if they were deprived of opportunities of work in these schemes.

Mr. ARTHUR KEEN [F.] pointed out that when war broke out they were told, in effect, that engineers and not architects were wanted for the work then to be done: the position was now reversed, and what was now required was essentially architects' work. The Institution of Municipal Engineers was, however, making great efforts to capture it for its own members, and was claiming payment for it at the recognised rates for architects' services. He claimed that the views of the public should be given due weight; the public were showing plainly that they were tired

of mean streets and dull suburbs, and that they required the new housing to be carried out in such a way as to be a credit to the nation; they asked for a high standard of convenience and accommodation, and they expected the new villages to be interesting and attractive. Borough engineers were men of outstanding ability, but they were in no way equipped for meeting the public demand; indeed, as a rule, nothing could be more deplorable than the efforts of the engineer when he tried to make his work attractive to the eye. The housing schemes at Chepstow, Kennington and many other places showed how fully architects had studied the subject in all its aspects and mastered it. It was their own regular work, and it ought not to be taken out of their hands.

Dr. ADDISON, in reply, said that he had listened with much interest and sympathy to the representations made to him on behalf of the architectural profession. That profession he knew had been among the hardest hit by the war. As Minister of Munitions he had come in contact with architects once in comfortable circumstances, who, debarred from the exercise of their calling, had been compelled to earn a livelihood in a munitions factory. As regards the problem now before them—the satisfactory housing of the people—architects must help them to get out of the habit of building ugly houses. His view was that true economy would result from the employment of professional people to do their own proper work—architects for architects' work, surveyors for surveyors' work, engineers for engineers' work. They must be prepared, however, to act *con amore*, with due regard to the interests of all. It was the part of the authorities to secure suitable plans and designs for their housing schemes, and he quite agreed that this work should be entrusted to properly-qualified architects. Sir James Carmichael would keep in touch with the Institute. In the Manual which the Board were preparing they would insert words drawing the attention of Local Authorities to the desirability of employing qualified architects for architect's work.

#### R.I.B.A. Deputation to Sir Alfred Mond.

A deputation from the Institute, consisting of Mr. Henry T. Hare (President), Sir Aston Webb, P.R.A., Mr. Ernest Newton, A.R.A., Major Harry Barnes, M.P., Mr. John W. Simpson, Mr. John B. Gass, and Mr. Max Clarke, waited upon Sir Alfred Mond at the Office of Works on Wednesday, the 12th instant. The object of the deputation was to urge upon the Government that it was against the public interest that important Government buildings should be confined entirely to the operations of a Government Department, and that the great care now bestowed on the education and training of architects entitled private practitioners to a proportion, if not the whole, of Government work. The report of the proceedings is unavoidably held over until the next issue of the JOURNAL.

#### The War Memorials Committee.

The Royal Academy has issued the following circular with reference to War Memorials:—

With the approach of Peace the necessity of organisation in dealing with War Memorials in this country becomes imperative. The danger is that the desire to perpetuate the memory of those who have laid down their lives should waste itself in wrong channels through lack of competent guidance, and should in fact endanger our national buildings and spaces by ill-advised interference. It is essential that memorials within our churches and cathedrals, in the close, the public park, or the village green, should not clash with the spirit of the past; that, however simple, they should express the emotion of the present and hope of the future without losing touch with the past, and that instead of being a rock of offence to future generations, they should be objects of veneration to those who follow us.

Efforts have already been made in various quarters to deal with this problem. Among other bodies, the Civic Arts Association concerns itself with the subject of War Memorials, and has been active since an early stage of the War both in propaganda and in advice to applicants. Appeals for advice have also been made to the Royal Academy, and that body, being anxious to assist in this important work, appointed a Committee in 1917, who drew up and issued in March, 1918, a memorandum of advice to municipal and other bodies who might be contemplating War Memorials.

In July, 1918, a representative meeting was held at the Royal Academy, at which a General Committee was formed, and the following were subsequently nominated to serve on an Executive Committee: Sir Edward J. Poynter, Bt., P.R.A., Chairman, The Earl of Plymouth, the Earl of Crawford and Balcarres, Earl Ferrers, Mr. Charles Aitken, Mr. Reginald Blomfield, R.A., Sir Thomas Brock, R.A., Mr. George Clausen, R.A., Sir Theodore Cook, Mr. Frank Dicksee, R.A., Sir George Frampton, R.A., Mr. Henry T. Hare, P.R.I.B.A., Mr. C. J. Holmes, Prof. W. R. Lethaby, the Very Rev. W. F. Norris, Dean of York, Sir William B. Richmond, R.A., Mr. J. S. Sargent, R.A., Mr. Charles Sims, R.A., Sir Cecil H. Smith, Mr. Alan A. Campbell Swinton, F.R.S., Sir Hamo Thornycroft, R.A., Sir Aston Webb, R.A., Mr. Christopher Whall, Mr. Henry Wilson, Captain F. Derwent Wood, A.R.A. Naval and Military Advisers—Captain H. W. Richmond, R.N., and Lieut.-Colonel Sir Arthur Leatham.

It is felt that in all cases the designs of memorials should be entrusted to competent artists, and this Committee has been formed, not to undertake designs, but to give assistance and advice at an early stage to the promoters of memorials; to act as a body of reference for those who desire guidance as to the general scope and character of memorials; to advise on their suitability for specific sites or positions in buildings; and generally to further an organised effort throughout the country to make the memorials of this war worthy of their great occasion. It is felt that all men of goodwill should contribute of such ability as they possess to bring it about that our war memorials should express the ideals fought for by the free nations of the world, and that while they speak to future generations of the courage and patriotism of those who have died, they do not sacrifice any of that older beauty which is England's legacy from an immemorial past.

Communications should be addressed to the Secretary, Royal Academy, Piccadilly, London, W.1.

#### Work for Invalided Soldiers.

Realising that there will be a great number of students of the arts returning to civil life from the Army who, in consequence of wounds or other disabilities, will be unable to follow their former occupations, Sir George Frampton has initiated a scheme for the formation of a Tapestry Guild to organise the teaching of tapestry weaving to such men as

might feel drawn to work of the kind. The immediate object of the Guild's work would be to design and carry out tapestries to serve as war memorials and rolls of honour, to hang in churches, in the halls of universities, public schools, and public corporations, as well as in private houses. Training centres for tapestry weaving under the best masters will be formed and studios with looms established; and as soon as promises for tapestries to the value of £5,000 are received the Guild will start operations. Sir George Frampton, who will act as Hon. Director of Works, is already in touch with the Ministries of Labour and of Pensions for the enrolment of men anxious to take up the work, and arrangements are being made with the London County Council for their preliminary training. It is the intention that the scheme shall be worked on co-operative principles and the artists and artist-craftsmen, whatever their position, shall participate in the proceeds of the production. Only tapestry work of the highest quality both of design and execution is contemplated and the most experienced experts in the craft will be asked to take the lead in the workshops.

Architects will, no doubt, be interested in this proposal to revive the use of tapestry for interior decoration, and there are probably many who would like to help in furthering the objects of the Guild. The Earl of Plymouth has consented to be its first President, and among those who have undertaken to assist in and control design are Mr. Geo. Clausen, Mr. Chas. Sims, Mr. Frank Brangwyn and Sir Edwin Lutyens.

Information regarding the work of the Guild may be obtained from the Hon. Sec., War Memorial Tapestry Guild, 11 Dorset Square, N.W.

#### Post-War Building.

Matters of immediate interest to architects are dealt with in a supplementary report issued by the Building Materials Supply Committee of the Ministry of Reconstruction which contains a detailed record of its investigations into the state of the various trades with a view to estimating the probable time necessary for their recovery from the effects of the war.

Particular consideration was given by the Committee to the outlook with regard to the supply of bricks. In this industry, more perhaps than in any other, the labour problem is of the utmost urgency, for besides the depletions caused by recruiting requirements, the superior attraction both in pay and conditions of employment offered by munitions and other protected works has enormously reduced the numbers working in the trade, although latterly augmented by female labour. Entering into details of brick production and the use of clamp burnt bricks, the Committee emphasizes the manufacturing difficulties of supplying a uniform quality of stock bricks and makes the important suggestion for the consideration of architects that second and third qualities of stocks should be specified for internal work, for which purpose "in many cases they are admirably adapted, and . . . were formerly used with general acceptance, as is found by the buildings of older London which are from time to time pulled down." It is suggested that should this be done it would not only greatly increase the manufacture of clamp bricks, but ease the transport problem.

#### Presentation to Mr. Ernest Newton, A.R.A.

The occasion of Mr. Ernest Newton's retirement from his honorary appointment as administrator of the Government building licence regulations in operation during the war, was marked by the presentation

to him, on the 3rd of January last, of an antique silver cup, a gift from his departmental staff, to show their appreciation of his conduct of the department over which he had presided since its inception in 1916.

Mr. HENRY T. HARE [President], in making the presentation, said: The gift was meant to express in tangible form their sense of Mr. Newton's uniform kindness and courtesy to every member of his staff. He had been mainly responsible for the organisation of the department and for the general policy adopted and followed throughout. The position had been a very difficult one and he had had to balance in the most delicate manner the interests of the building industry and the general interests of the country during the most critical period of the war. A control which bore unequally on either interest would have meant on the one hand the destruction of building, and on the other a sacrifice of vital national needs. Both interests Mr. Hare thought, had been adequately safeguarded, and the friction inseparable from any system of control had been reduced to a minimum. They who had been intimately associated with Mr. Newton knew what infinite tact and patience had been required to steer a proper course at all times, and how much there had been to try the temper of the man at the helm. Yet during the whole time he did not think anyone had seen Mr. Newton out of temper or heard him utter a harsh or unkind word. The whole department had partaken more of the nature of a happy family than a Government office. They all heartily wished Mr. Newton the best of good fortune and good health on his return to his own profession, of which he was such a distinguished member.—Mr. HARRY K. NIELD said he would also like to express on behalf of the staff the great regret they all felt on parting with their kindly chief, whose innumerable kind and thoughtful acts had gone far to lighten their work.—Mr. H. G. IBERSON [F.], speaking of Mr. Newton's work at the Ministry, said how successful he had been in fighting all attempts made to reduce the "£500 limit," and that it was owing to his efforts that many a little country builder had kept going through the war and who would now be ready to give employment to men returning from the Army.—Miss FEWINGS, the Chief Clerk, speaking for the ladies of the department, in handing the cup to Mr. Newton, said how much they, too, had enjoyed their period of service under his direction, and in warmly thanking him they would also like to join in giving him their best wishes for the future.—Mr. NEWTON, expressing his thanks for the gift, said what a great pleasure it was for him to receive such a token of affection and esteem. He thought that Mr. Hare and the other speakers had been too flattering in their remarks as to his work, though he would not pretend that that work had not been difficult at times, and always strenuous, but he had been fortunate in having a staff in which he could always rely for ungrudging assistance.

#### Municipalities and Independent Architects.

The accuracy has been questioned of a paragraph in the Report of the Joint Committee of Representatives of the R.I.B.A. and the Allied Societies (see JOURNAL for November) stating that "three of the Allied Society representatives mentioned that their City Corporations had decided to put all work over £400 in value into the hands of independent architects." Enquiry having been made into the matter, it is found that the subject cropped up casually at the Conference, that the remarks were not reported verbatim, and that the précis from which the minutes were written was open to misconception and led to a too definite conclusion. Still, though not literally accurate, there was solid foundation for the statement. It has been the custom both at Birmingham and at Leicester for the City authorities to place important architectural work in

the hands of private practitioners, and from the architects' point of view the relations between the authorities and the local architects are considered satisfactory. In South Wales, too, it is quite a common practice for Local Authorities to engage independent architects for all kinds of architectural work.

### OBITUARY.

**The late Col. Edward Dru Drury, V.D. [F].**—On the 25th January Colonel E. Dru Drury died at Bath, where, since his retirement in 1916, he had resided. The funeral took place on Thursday, the 30th January, at Lansdown Cemetery, Walcot, Bath. Col. Dru Drury was born in 1841, educated at private schools, was articled to Mr. George Barnes Williams, of Frederick's Place, Old Jewry, and spent some time in the office of Mr. Samuel Sanders Tuelon, of Craig's Court, Charing Cross. He commenced practice in 1862, and was leading partner in the firm of Drury & Lovejoy, of Bucklersbury, E.C. He was elected an Associate of the Institute in 1864, and a Fellow in 1872, and was also a Fellow of the Surveyors' Institution. In 1870 he was appointed District Surveyor for St. Margaret, St. John and the Close of the Collegiate Church of St. Peter, Westminster, which office he held for forty-six years. He was elected President of the District Surveyors' Association in the year 1906. Among his works are the following:—Country houses at Boxmore, Hemel Hempstead, Hertfordshire; Shooter's Hill, Kent; Launceston, Cornwall; and Westcliffe, Margate; new church at Hemel Hempstead; restoration of Hapton Church, Norfolk; additions and alterations to St. John the Evangelist, Blackheath; St. James', Kidbrooke; and St. Michael's, at Blackheath Park; mission hall, memorial room and parish rooms at Blackheath and Kidbrooke; church schools at East Greenwich, and various business premises in the cities of London and Westminster. He had a considerable practice in light-and-air and party-wall cases. Colonel Dru Drury served as a Volunteer Officer in the Queen's Own Royal West Kent Regiment, and was a Freeman of the Goldsmiths' Company.—THOS. P. TINSLEY, *Licentiate*.

**The late Henry Winter Johnson [F].**—Henry Winter Johnson, of Market Harborough, whose death occurred on the 15th December, 1918, at the age of 47, had been a Fellow of the Institute since 1904. He was articled to Messrs. Stock, Page & Stock, London, and in 1894 entered the office of Mr. J. Alfred Gotch [F.]. Two years later he went into partnership with Mr. Coates, the Surveyor of Market Harborough, where he continued in practice until 1916. He had an extensive practice in the town and surrounding districts and did much public as well as domestic work. The buildings erected under his direction included elementary and secondary schools for the Leicestershire County Council, a cottage hospital, assembly rooms, offices, factories, shops, and a cattle market, &c. The firm also carried out various country houses, hunting-boxes and hunting and polo stables. He was an exhibitor at the Royal Academy.

### COMPETITIONS.

#### Birmingham Housing Competition.

The following circular has been forwarded from the Birmingham Architectural Association to all architects in the Birmingham District:

SIR,—We have to advise you that the replies received from the Housing and Town Planning Committee in respect of the Pine Apple Farm and Ford House Lane Competition not being satisfactory or in accordance with the Royal Institute of British Architects' Regulations for conducting Competitions, architects are requested not to submit designs.

The matter is being taken up with the Operatives' and other Associations, and every means is being taken to bring the strongest pressure upon the Housing and Town Planning Committee in order to ensure the scheme being carried out in accordance with the R.I.B.A. conditions.

It is, therefore, strongly suggested, in the interests of the profession, that no architects should submit plans until a favourable solution is arrived at.—Yours faithfully,

W. ALEX. HARVEY, President.

E. MARSTON RUDLAND, Secretary.

### MINUTES.

At the Sixth General Meeting (Ordinary) of the Session 1918-19, held Monday, 20th January 1919, at 5.30 p.m.—Present: Mr. Arthur Keen, Member of Council, in the Chair; 17 Fellows (including 3 Members of the Council), 11 Associates, 3 Licentiates, and several visitors—the Minutes of the Meeting held 6th January 1919 were taken as read and signed as correct.

The Hon. Secretary announced the decease of the following members: Fairfax Blomfield Wade-Palmer, elected Associate 1892, Fellow 1898; William Norman Pogson, elected Fellow 1891.

Mr. Grahame Burnell Tubbs, Associate, attending for the first time since his election, was formally admitted by the Chairman.

Mr. M. H. Baillie-Scott having read a Paper on THE MAKING HABITABLE OF OLD DWELLINGS IN TOWN AND COUNTRY, a discussion ensued, and on the motion of Mr. Herbert W. Wills [F.], seconded by Mr. Francis Hooper [F.], a vote of thanks was passed to him by acclamation.

The proceedings closed at 6.45 p.m.

At the Seventh General Meeting (Ordinary) of the Session 1918-19, held Monday, 3rd February 1919, at 5 p.m.—Present: Mr. Henry T. Hare, President, in the Chair; 14 Fellows (including 4 members of the Council), 6 Associates (including 2 members of the Council), 2 Licentiates, and 4 visitors—the Minutes of the Meeting held 20th January were taken as read and signed as correct.

The Hon. Secretary announced that intimation had been received of the death in action of Captain Francis Renton Barry, East Surrey Regiment, Associate, and Major William Jane, R.E., Licentiate. Upon the motion of the Hon. Secretary it was Resolved that the Institute's deepest regrets for the loss of these gallant officers be entered on the Minutes, and that a message of sympathy and condolence be forwarded to their nearest relatives.

The President having referred to Sir Aston Webb's election as President of the Royal Academy, announced that



the Council at their meeting that afternoon had decided to send him an Address of Congratulation on behalf of the Institute.

The President announced that the Council proposed to submit to His Majesty the King the name of Mr. Leonard Stokes as a fit recipient of the Royal Gold Medal for the current year.

It was announced that the candidates whose names are given under "Notices" below had been nominated for election.

Mr. George Hubbard, F.S.A. [F.], having read a Paper on HOW TO OBTAIN A WATER SUPPLY IN THE ABSENCE OF SPRINGS, RIVERS, AND RAIN, a discussion ensued and on the motion of Mr. Paul Waterhouse [F.], seconded by Mr. John W. Simpson [F.], a vote of thanks was passed to him by acclamation, and was briefly responded to.

The proceedings closed at 6.15 p.m.

## NOTICES.

A SPECIAL GENERAL MEETING will be held Monday, 3rd March 1919, at 5 p.m., for the following purpose:—

To elect the Royal Gold Medallist for 1919. The Chairman to move: "That subject to His Majesty's gracious sanction the Royal Gold Medal for the promotion of architecture be presented this year to Mr. Leonard Stokes, in recognition of the merit of his executed work."

The SEVENTH GENERAL MEETING (BUSINESS) will be held following the above Meeting for the following purposes:—

To read the Minutes of the General Meeting (Ordinary) held Monday, 17th February 1919; formally to admit members attending for the first time since their election.

To proceed with the election of the following candidates for membership [N.B.—The names and addresses, together with the names of the proposers, are set out under "Notices" in the January issue of the JOURNAL]:

### AS FELLOWS.

MORLEY: ERIC [A., 1909], Bradford.  
SWARBRICK: JOHN [A., 1902], Manchester.  
TUGWELL: SYDNEY [A., 1911], Bournemouth.  
TYRWHITT: THOMAS [A., 1900].

And the following Licentiate who have passed the qualifying examination:

ALLEN: GEORGE PEMBERTON, Bedford.  
COLERIDGE: JOHN DUKE.  
FORREST: GEORGE TOPHAM, Chelmsford.  
HODGSON: ARTHUR NICHOLAS WHITFIELD, Windermere.  
WILLIAMSON: WALTER, Bradford.

### AS HON. CORRESPONDING MEMBER.

KRUG: GEORGE HENRY, Brazil, Professor of Architecture under the State Government.

### AS ASSOCIATES.

[The candidates are serving, or have served, with the Forces, and being duly qualified, have availed themselves of the temporary concessions granted to Students (see Special Regulations, JOURNAL for March 1918)]:

ALISON: WALTER [S., 1912], Dysart, Fife.  
BEECH: FREDERICK WILLIAM [S., 1908], Exeter.  
BENNETT: GWYN [S., 1910].  
BROADHEAD: FRANK ARTHUR [S., 1911], Nottingham.  
BRUCE: JOHN CLAYTON COLLINGWOOD [S., 1913], Whitby.  
CAMERON: ROBERT HUNTER [1913], Glasgow.  
CART DE LAFONTAINE: PHILIP [S., 1911].  
CASH: HERBERT WILLIAM [S., 1910].  
CLARE: ALFRED DOUGLAS [S., 1913], Manchester.  
COLERIDGE: PAUL HUMPHREY [S., 1910].  
CURRIE: JOHN KIRKWOOD [S., 1918].

DERRY: DOUGLAS CHARLES LAWFORD [S., 1917].  
EDWARDS: ARTHUR TRYSTAN [S., 1916], Merthyr Tydfil.

EDWARDS: JOHN RALPH [S., 1912], Bristol.

GILL: MAURICE BERNARD [S., 1913].

GLENCROSS: LESLIE HAROLD [Special War Exam.].

GRAY: GEORGE HALL [S., 1912], North Shields.

HARKNESS: WILLIAM [S., 1912], Dorset.

HARWOOD: ARNOLD WILLIAM [S., 1911].

HASELDINE: CYRIL FRANK WM. [S., 1913], Beeston.

HEAD: GEORGE LESLIE [S., 1912].

HILL: HENRY HOUGHTON [S., 1905], Cork.

HUBBARD: HARRY [S., 1914], Glasgow.

LAWSON: EDWIN MADDISON [Special War Exam.], Chester-le-Street.

LAWSON: JOHN SCOTT [S., 1913], Dunfermline.

LEADAM: EVELYN GRAHAM SHATON [S., 1913].

LEAHY: WILLIAM JAMES [S., 1909].

LLOYD: ALBERT PEREGRINE [S., 1914], Swansea.

MAY: THOMAS WILLIAM VIVIAN [S., 1914].

MIDDLETON: VIBERT [S., 1908], Newcastle.

PITE: ION BERRSFORD [S., 1914].

ROBINSON: NORRIS STUART [S., 1912], Spilsby.

ROSE: GEORGE ALFRED [S., 1913].

ROWNTREE: DOUGLAS WOODVILLE [S., 1908].

RUTHER: ERNEST SIDNEY [Special War Examination].

SACRE: LESTER HOWARD [S., 1914], Chelmsford.

SAUNDERS: BERNARD ROBERTSON [S., 1913], Birmingham.

SKELDING: PERCY [S., 1912], Bristol.

SKINNER: MARTIN [S., 1902], Walton-on-Thames.

SLATER: MARTIN JOHNS [S., 1912], Hadleigh, Suffolk.

SMITH: CHARLES WILLIAM [S., 1915], Cambridge.

SPENCE: ANDREW TEBBUTT [S., 1912].

STEPHENS: HERBERT STANLEY [S., 1913].

TUNNARD: HY. BARTHOLOMEW [S., 1914].

WHITE: THEODORE FRANCIS HANSFORD [S., 1913].

WIGGINS: JOHN STANLEY [S., 1913], Brighton.

WILLIS: WILLIAM ELIA [S., 1908], Pentre, South Wales.

WOODROFFE: NORMAN FREDERIC [S., 1911].

The Chairman formally to present the Revised Schedule of Professional Charges and move its adoption and that the existing Schedule be withdrawn. [N.B.—Copies of the Revised Schedule were issued to members during the week ending 1st March.]

An EXTRA-ORDINARY GENERAL MEETING will be held on Monday, 10th March 1919, at 5 p.m., for the purpose of a discussion on PROFESSIONAL PROBLEMS OF THE MOMENT.

The EIGHTH GENERAL MEETING (ORDINARY) will be held on Monday, 17th March 1919, at 5 p.m., for the following purposes:—

To read the Minutes of the General Meetings (Special and Business) held Monday, 3rd March 1919; formally to admit members attending for the first time since their election.

Sir FRANK BAINES, K.B.E., M.V.O., to read a Paper on "WAR FACTORIES AND SHEDS: their Construction and Adaptation to Future Needs."

## R.I.B.A. Publications.

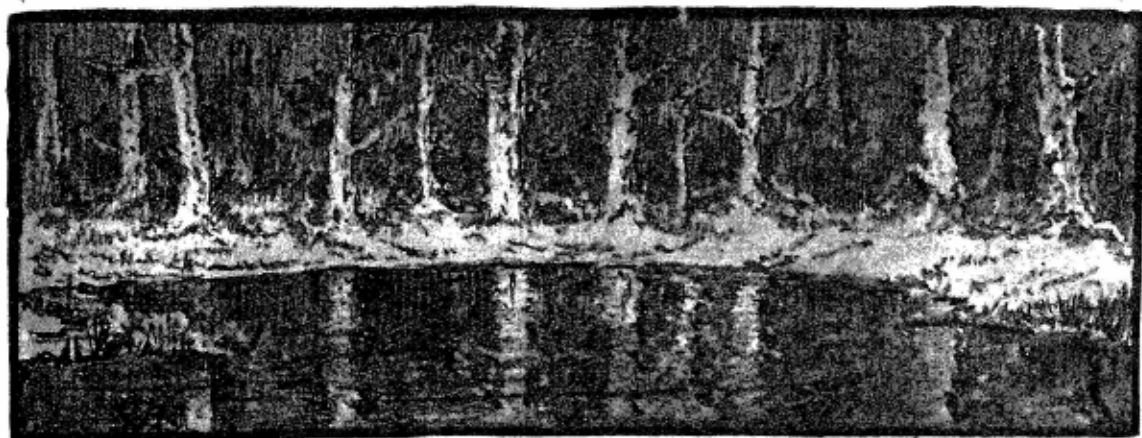
Just Published.

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DILAPIDATIONS. A Handbook prepared by the PRACTICE STANDING COMMITTEE of the R.I.B.A. and issued by the Authority of the Council. Second Edition, Revised. Demy 8o. 2s. 6d. net; post free, 2s. 9d.

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## HOW TO OBTAIN A WATER SUPPLY IN THE ABSENCE OF SPRINGS, RIVERS AND RAIN.

By GEORGE HUBBARD, F.S.A. [F.].

Read before the Royal Institute of British Architects, Monday, 3rd February, 1919.

**I**N the consideration of a water supply in the absence of all rivers, springs and rain, it must be realised that every drop of water that falls to the earth comes from the air. As the air is the source of supply it is necessary to consider shortly the composition of the air we breathe. All that need be said about this is that it is composed of certain gases and aqueous vapour. All gases, except aqueous vapour, are present in definite proportions to each other, but the aqueous vapour is subject to very large variations. This gas, or aqueous vapour, is always being given off by evaporation from any surface of water or from ice until the atmosphere becomes saturated with it. The point of saturation, or the dew-point, represents that state of the atmosphere when it cannot contain any additional moisture or aqueous vapour at a given temperature. The dew-point or state of saturation varies with the temperature. The higher the temperature of the air the more aqueous vapour it is capable of containing. The state of saturation is made known when the dry and wet thermometers record the same temperature. It is obvious that if the temperature of saturated atmosphere is lowered below the dew-point, then the moisture that it cannot contain at such lower temperature must be deposited. This deposition of aqueous vapour consequent upon the lowering of the temperature below the dew-point sometimes forms dew, or it may fall as rain or remain suspended in the air as a mist. If the temperature of the atmosphere is again raised without any chance of its coming in contact with any form of moisture, then the atmosphere is comparatively dry and evaporation from any moist surface is rapid. In fact, as the temperature of the atmosphere rises it absorbs moisture whenever it comes in contact with it, and as it falls below the dew-point it deposits its excess of moisture. The process of evaporation takes up pure aqueous vapour from even the most fetid pools, and it is again distributed on the surface of the earth in the form of pure water when the temperature falls below the dew-point. If it were not for this action and reaction, life, as we know it, would be impossible on the earth.

Passing from these elementary remarks, we must now consider by what process the temperature of the atmosphere can be chilled below the dew-point, so that its superabundance of aqueous vapour shall be deposited at the lower temperature upon a desired surface and in sufficient quantity to afford a water supply. Before, however, directly dealing with this point, it must be realised that the portion of the earth receiving the sun's rays during the day is absorbing a certain amount of heat. Generally

speaking, one-half of the heat of the sun received by the illuminated atmosphere is absorbed by the air, leaving the other half to reach the surface of the ground, provided that there are no intercepting clouds. This process of absorption of the heat of the sun during the day is reversed during the night. For our present purpose it may be assumed that the heat received either by the atmosphere, or by any portion of the surface of the earth, during the day, is radiated during the night, into space. Thus the atmosphere which is warmed during the day is capable of containing a greater percentage of aqueous vapour than it can retain, if it is chilled below the dew-point, during the night. When the temperature of the surface of the earth falls during the night below the dew-point the excess of aqueous vapour, in the form of dew, is deposited. If, however, the sky during the night is overcast with clouds the heat acquired by the day is given off into the layer of air below the clouds, and the tendency is for the temperature of the earth and the atmosphere to be maintained. Under these conditions the atmosphere will continue to contain the aqueous vapour and little or no dew will be deposited. It is on the clear starlight nights that the most copious depositions of dew take place.

The atmosphere may also be warmed or chilled by purely mechanical processes. Thus, if a lump of ice is placed in a glass of water the outside of the glass becomes chilled, and the moisture-laden air, coming in contact with the chilled surface of the glass, in its turn decreases in temperature. As soon as it falls below the dew-point the outside surface of the glass, especially if it has a rough and not a polished surface, becomes coated with beads of water. If now the glass of water containing the ice be placed on a plate the dew will soon be seen running down the surface of the glass and forming a dew pond in the plate. From this example it will be seen that, provided a chilled surface can be produced which will lower the surrounding temperature of the atmosphere below the dew-point, the aqueous vapour will be condensed on the chilled surface. Radiation lowers the temperature, and so does evaporation, and when these two forces are both in action a very considerable fall is reached in the temperature of the radiating and evaporating body. As a concrete example of this, the well-known method adopted in India of procuring ice is worth recording. For an account of this I quote from Scott's *Meteorology*, in the "International Scientific Series":—

A very practical use of nocturnal radiation has been made from time immemorial in India, in the preparation of ice, and on such a scale that about ten tons of ice can be procured in a single night, from twenty beds of the dimensions about to be given, when the temperature of the air is 15° or 20° Fahr. above the freezing point. The locality referred to is in the immediate neighbourhood of Calcutta. A rectangular piece of ground is marked out, lying east and west, and measuring 120 by 20 feet. This is excavated to a depth of 2 feet and filled with rice straw, rather loosely laid to within 6 inches of the surface of the ground.

The ice is formed in shallow dishes or porous earthenware, and the amount of water placed in each is regulated by the amount of ice expected. No ice is formed if the wind is sufficiently strong to be called a breeze, for the air is not left long enough at rest, above the bed, for the temperature to fall sufficiently by the action of radiation.

To obtain this result I should imagine that it is essential that it should be a cloudless night, and the air comparatively still. Mr. Scott points out that this freezing action ceases with southern or easterly airs, which contain more moisture than the north-north-west airs. It is when the wind is in the north-north-west that the freezing action is most active, and it is largely owing to the chilling effect of *evaporation* in the dryer airs that the freezing temperature is reached. From this example it will be seen that the straw lining is a non-conductor of heat, and thus prevents the pans of water from absorbing the heat of the surrounding earth. As the heat that the water and the pans contained in the first instance becomes lessened by radiation and evaporation during the night, the temperature of the water falls below the freezing point. It is well to bear in mind this striking illustration of the low temperature which can be attained by a body of water protected by a non-conductor of heat from contact with the surrounding earth. In miniature we have here almost the same conditions which operate in a properly constructed dew-pond.

Another example, which will be more familiar to everybody, may be seen on the railways where the sleepers are entirely covered by gravel. On a frosty morning it may often be observed that the hoar-frost covers the gravel lying immediately above the wooden sleepers, whereas the gravel lying

between the sleepers shows no sign of hoar-frost. In this case the wooden sleepers act as a non-conductor, and the gravel lying above them, having radiated into space a certain amount of the acquired heat of the day, becomes chilled and the dew which is deposited upon this protected gravel becomes frozen and appears as hoar-frost. A decayed sleeper may at once be detected, as it no longer acts as a non-conductor of heat, and so the hoar-frost is not deposited on its surface. Illustrations might be quoted without number, but my object in referring to these instances is to emphasise the fact that, by the application of simple automatic conditions, definite results may be obtained which may some day prove to be of great importance to humanity.

In certain countries where there are neither rivers nor springs, and where the rain seldom or never falls, the conditions appear to render such localities unsuitable for man and beast. Yet, by the application of scientific principles, a constant water supply will be obtained if it is possible to lower the temperature of the air below the dew-point. This, I think, may be done on the evidence of the following facts :

Before beginning to construct a dew-pond it would be quite possible to predict with considerable measure of certainty whether it would or would not act as a condenser in any particular locality. All substances during the night have the tendency to decrease in temperature below the temperature of the surrounding air, but owing to their mass or bulk this process of cooling may be too gradual to allow the substance to attain its ultimate degree of coldness before the sun rises in the morning. Provided the substance has a sufficiently large superficial radiating area, and it is thermally cut off from its surroundings, except the air, it will attain what is known as its "thermometric distance." Thus, the temperature of grass always assumes a temperature of  $3.6^{\circ}$  below the temperature of the surrounding air, whatever that may happen to be. Swansdown, for instance, always drops  $12^{\circ}$  to  $13^{\circ}$  below the temperature of the air, and I found that a thin piece of iron 15 inches square, when suspended in the air, dropped during the night  $9^{\circ}$  below the temperature of the air at the same level. On this point Tyndall says : "Thus, while the general temperature varies within wide limits, the difference of temperature between the radiating body and the surrounding air remains sensibly constant." This thermometric distance, that all substances try to attain, may give some astonishing results.

Let it be imagined, for example, that it is a still night and the grass has dropped in temperature to its thermometric distance  $3.6^{\circ}$  below the air. The air in its turn drops in temperature by contact with the cold grass. The consequence is that the grass attempts to re-establish its proper thermometric distance, and to do this it has again to fall in temperature, and this in its turn again further chills the air. The final result is that the grass may drop in temperature perhaps  $18^{\circ}$  below the temperature of the air a few feet above the grass. From the dew-pond point of view this is an important factor in predicting whether the dew-point will or will not be reached in a proposed dew-pond. It is by a comparison between the number of degrees that the temperature of the air is likely to be lowered by the cooling effect of the condensing surface with the number of degrees that the atmosphere must fall before the dew-point is touched that it becomes possible to predict whether aqueous vapour will or will not be condensed out of the atmosphere.

To illustrate what I mean I find that at Moddersfontein, in the Pretoria district, no rain falls during the months of June, July and August, and yet at 6 a.m., the hour when the readings are taken of the wet and dry bulb thermometers, that the dew-point is never more than  $10^{\circ}$  below the temperature of the air. If my little metal plate 15 inches square fell  $9^{\circ}$  below the temperature of the air at the same level, it may safely be assumed that a large area of metal would fall considerably more, in the same way that grass which has a thermometric distance of  $3.6^{\circ}$  falls on a still night  $18^{\circ}$  below the temperature of air a few feet above it. At Moddersfontein a drop of  $10^{\circ}$  only is required to get the first traces of dew, thin iron plates over a fairly large area should easily drop very considerably more than this, so that distilled water might be obtained at Moddersfontein during the three months when no rain falls.

## ANCIENT DEW-PONDS.

In numerous dew-ponds in this country the dew-point is reached without difficulty. But not till my brother, Dr. Hubbard, first suggested the physical action that was in progress, was a scientific explanation advanced as to why these ponds remained charged with water through the longest summer and in the absence of all springs or surface drainage. Furthermore, we were, I think the first to show that these ponds furnished the principal water supply to those pre-historic races who lived on the hill-tops on the South Downs thousands of years ago. On the higher part of the Downs, and sometimes on the very summit of the Downs, such ponds may be seen.

From time immemorial a certain definite form of construction seems to have been adopted. For a description of this I quote from *Neolithic Dew-ponds and Cattleways*, the joint work of my brother and myself :

Operations are commenced by hollowing out the earth for a space, far in excess of the apparent requirements of the proposed pond. The whole of the hollow is then thickly covered with a coating of dry straw. The straw in its turn is covered by a layer of well-chosen, finely-puddled clay, and the upper surface of the clay is then closely strewn with stones. Care must be taken that the margin of the straw is effectively protected by clay. The pond will gradually become filled with water, the more rapidly the larger it is, even though no rain may fall. If such a structure is situated on the summit of a down, during the warmth of a summer day the earth will have stored a considerable amount of heat, while the pond, protected from the heat, by the non-conductivity of the straw, is at the same time chilled by the process of evaporation from the puddled clay. The consequence is that during the night the moisture of the comparatively warm air is condensed on the surface of the cold clay. Owing to the chilling effect of evaporation from this thermally isolated surface, the condensation during the night is in excess of the evaporation during the day, and the pond becomes, night by night, gradually filled. The dew-pond will cease to attract the dew if the layer of straw should get wet, as it then becomes of the same temperature as the surrounding earth, and ceases to act as a non-conductor of heat.

The late C. J. Cornish, in *The Naturalist on the Thames*, gives some perfectly surprising results in respect to the accumulation of water in a dew-pond. The measurements were made by a shepherd employed by Mr. Cornish.

Whenever he (the shepherd) thought that a heavy dew or fog was to be expected he notched a stick and drove it into the pond over night so that the notch was level with the surface. Next morning he pulled it up, marked how high the water had risen above the notch; and notched it again, for measurement. On January 18th, 1901, after a night of fog, the water rose  $1\frac{1}{2}$  inches; on the next day after another fog, 2 inches; and on January 24th 1 inch. Five nights of winter fog gave a total rise of 8 inches, a vast weight of water even in a pond of moderate area. Five days of heavy spring dew in April and May with no fog gave a total rise in the same pond of  $3\frac{1}{2}$  inches, the dews, though one was very heavy, giving less water than the fogs, one of which even in May caused the water to rise  $1\frac{1}{2}$  inch.

The heaviest rainfall in these islands would never probably give anything approaching this result within the same time, and the full effect of this may perhaps be better appreciated when it is realised that an inch fall of rain represents slightly over 100 tons of water to the acre.

In some localities the ponds are known to the shepherds as "misty ponds," because it is asserted that the mists hang over the ponds. The chilled atmosphere above the pond would condense the aqueous vapour and a mist would be formed, just as mists are formed over rivers or streams in the evenings after a hot day. The name Mist, or Misty Ponds, seems quite appropriate. Those ponds which are situated at the highest elevation are certainly more successful than those in the valleys. The reason for this appears to lie in the fact that the invisible aqueous vapour is carried upward in the air currents. As the air rises into higher altitudes it expands, and this mechanical process of expansion lessens the temperature. As the temperature diminishes there is rapid condensation, and the condensation is greatest on the hill-tops which rise above the warm air of the valleys, and more especially does this condensation take place on the surface of the dew-ponds which have been artificially prepared. The hill-tops which rise into the clear upper atmosphere radiate easily and act as condensers. All must have observed how the clouds hang around near the hill-tops when the rest of the atmosphere seems clear. It is only when the invisible aqueous vapour condenses that it becomes apparent, and it only condenses when the atmosphere becomes chilled below the dew-point.

Dew-ponds appear to be only successful when constructed on a chalk bottom. Some people have therefore considered that the chalk must have some mysterious influence upon the result. This mysterious influence is, I fancy, only due to the fact that chalk is a sterile soil, and it is owing to the



absence of worms that the layer of straw can remain dry. A dew-pond on any other soil, except chalk, would be certain to fail if constructed exactly on the old methods, and it is for this reason, so far as I know, that dew-ponds are only found on a chalk formation. In the absence of a chalk formation it would be necessary to lay a foundation bed of cement-concrete, or asphalt, so that the non-conducting material should be protected against the destructive action of worms or other animals boring in the earth. A thick layer of straw is a very good non-conductor, and its efficacy lies in the fact that the cellular formation of the straw contains still air—i.e., not in motion. The rays of heat which are able to penetrate the straw structure are baffled by the still air, whereas those rays which can with comparative ease penetrate the still air are in their turn baffled by the structure of the straw. By the almost innumerable number of straw structures, with the still air in the cells, the heat rays fail to pass through the entire mass. Thus a good non-conductor of heat should be a material composed of substances of very different densities.

#### NATURAL DEW-PONDS.

During the discussion which followed on a Paper I read at the Society of Arts, Mr. W. K. Stratton spoke about some ponds in the Colesberg District (Cape Colony). These ponds, he asserted, had a higher water level in the morning than in the evening, this result being obtained during the dry season and in the absence of any springs. Mr. W. E. Abbott, in a letter which appeared in the *Pastoralists' Review* in July, 1910, speaks of a lake, at or near the top of Lagoon Mountain at an altitude of 2,000 feet, in the parish of Page, in the county of Brisbane. He says: "This lake has been the puzzle of the inhabitants for more than half a century, for it retains its water except through the most severe droughts. During the great drought of 1885-6 it dried up, and then in the most astonishing manner it filled up again before the drought broke up and without any rain having fallen on the mountain or in the district." Mr. Abbott says the top of the mountain is heavily timbered, and that this lake is not fed by any springs or streams, and yet it displays this extraordinary capacity of recharging itself before the rains come. The explanation is, if I may venture to give it without having been anywhere near New South Wales, much less on to Lagoon Mountain, that the marshy site of the lake may chill the rarefied air below the dew-point, so that the condensed aqueous vapour is deposited in the basin of the lake.

A far more striking example of the action of a natural dew-pond was given to me by Mr. Hubert Congreve in a letter dated March 7th, 1909. In this letter he says that "in 1906 he visited the Lac de Bouchet in Auvergne. It was a very hot summer, ponds and small streams were dry, the large rivers unusually low, and large trees drooping. Yet the Lac de Bouchet was brim full." He commented on this to the keeper of the little inn on the shores of the lake. "Mais c'est toujours comme ça," said the innkeeper. "In a dry summer it is always high, in a wet summer low." Mr. Congreve gave a diagram in his letter, from which it appears that the lake is circular and about five-eighths of a mile in diameter, and it appears to occupy the crater of an extinct volcano. The altitude of the lake is some 1,300 metres, and the margin of the crater is covered with pine-wood; the crater crust on which the pine trees grow stands some fifty feet above the lake. The lake is on the highest ground for miles around, with the exception of one peak three miles away, which stands at an altitude of 100 metres above the lake. The isolated and elevated position of this lake, with no higher ground within three miles of it, precludes any suspicion of a spring as a source of supply, and of course there are no streams. Even if the lake did receive a supply from such sources, it would neither explain the fact that the lake was brim full in the very hot summer of 1906, when no rain fell between May and August 14th in the Auvergne, nor would it explain what the innkeeper observed when he said that "in a dry summer it is always high, in a wet summer low." The catchment area around the lake is quite sufficient to feed a lake of such a size as the Lac du Bouchet. Professor Boyd Dawkins could not explain the phenomenon, and said he would go and see it the next time he was in the Auvergne, but whether he did so or not I do not know. The only theory to account for this natural dew-pond—for it can be nothing else



in the absence of rain, streams or springs—lies, I think, in the fact that the lake is situated at a considerable altitude, and is surrounded by a belt of fir-trees. The warm moisture-laden air from the valleys falls in temperature as it rises and expands, and it becomes still further chilled as it comes in contact with the fir-trees. The temperature of the air is reduced below the dew-point, and the moisture that the air cannot contain at this lower temperature is deposited as dew and finds its way into the lake.

#### RECENT EXPERIMENTS.

Experiments which were made by my brother and myself resulted in striking effects where we used mica as the non-conductor. We made wooden trays, 2 feet square, and painted them various colours. We also prepared square slabs, constructed from waste mica, 2 feet square and 2 inches thick. When we placed any one of our trays upon such a slab of mica, on the same night and side by side other trays, not on mica slabs, the result was that we generally obtained during the night just twice as much water in the tray placed on the mica as we obtained upon the other trays. These experiments were carried out upon a gravel path where no sign of condensation appeared. The wood with which the trays were constructed is in itself a good non-conductor of heat, and it is owing to this fact that the trays placed directly on the gravel gained some moisture. Those trays painted green or those painted white obtained the most water, whereas those painted black invariably obtained the least. The presence of chlorophyll in all vegetation, which gives it its green colour, may have some bearing on the point. The true parasitical plants, which rely upon obtaining their moisture from the trees upon which they grow, are rarely if ever green. A lawn at the side of the gravel path was wet with dew. The obvious reason for this is that the thin blades of grass, being only connected at their base with the earth, are able to radiate their heat easily, and quickly attain their thermometric distance. As they become chilled below the dew-point of the atmosphere, the dew is deposited upon each blade.

#### MODERN DEW-PONDS.

There appears to be no difficulty in obtaining water at high altitudes; but in order to test the possibility of obtaining water at a very low level my brother and I carried out an experiment on a large scale. The immediate result of this experiment was so extraordinary that I venture to give the particulars at some length.

In a flat meadow between Mottingham and Grove Park, in Kent, on perhaps the lowest lying land in the district, we determined to construct a dew-pond. We began by excavating the earth to a depth of 18 inches over an area of 100 feet square, the superficial area of the pond was to be 10,000 feet. After the work of excavation was completed we laid a bed of 4 inches of cement concrete, and in order to check any moisture rising into our pond from below we thickly coated the surface of the concrete with pitch. Mica is an excellent non-conductor of heat, and from this material we had slabs or tiles made, measuring 2 feet square and 2 inches thick, which were to be the active agents in the construction of our pond. The surface of the pitch was spread over with fine sand to make a suitable bed for our mica slabs. They were then put down in regular order, leaving perhaps an inch space between each slab. In order to keep these slabs quite dry and so preserve their heat non-conducting property, we covered the whole surface of the pond with  $\frac{1}{2}$  inch of asphalt; the asphalt ran into the spaces between the slabs, but when it was completed it presented an even black appearance over the 10,000 feet area of the pond.

When all was completed, I went in the early morning of a day in autumn to see if the pond had collected any water. On the way I met the contractor who was returning from a still earlier inspection. I asked if there was any water in the pond. To this question he made the inscrutable reply that the "pond looked like a window." The pond lay but a short distance away, and I thought that perhaps I should learn more by my own observation than I should by asking for an elucidation of his remark. Still, his remark was so unexpected and so inexplicable that I admit it puzzled me, more especially as it came from a very matter-of-fact man.

On arriving at my pond, a most extraordinary spectacle presented itself. The pond did not look so much like a window as a great chess-board, with some 2,500 perfect white squares, all ruled off regularly by hard pitch-black lines about 1 inch wide between them. There was only the very faintest trace of dew on the grass around the pond, but not so in the pond itself. On the asphalt immediately above each mica square, tall white hoar frost was standing, but there was not a trace of hoar frost on the asphalt above the joints, which stood out as hard black lines. In the course of a few hours the sun melted the hoar frost, but we obtained hundreds, if not thousands, of gallons of water, which lay in great pools and puddles on the surface of the asphalt. It was a comparatively warm day, and the asphalt, protected as it was by the mica slabs, retained the heat, and the sun in the course of the day dried up the pond. Still, the experiment was a success, and if the pond had been laid with a fall we might have kept the water by running it off into underground tanks. This experiment, which was purposely carried out under the most disadvantageous conditions, proved the possibility of obtaining a water supply far in excess of the requirements of a single domestic house. Mica was an expensive material to use, wood or straw would have been cheaper, and these would probably have given an almost equally good result.

In an article under "Engineering Notes" on 24th January, 1919, in a journal called *The Near East* this statement appears: "A condensing reservoir measuring 100 feet by 100 feet would, it is estimated, yield an effective volume of about 200,000 gallons of water per annum, equivalent to the domestic water supply necessary for a population of 30 or 40 people. The first cost of an installation of this character is extremely low."

To obtain the best possible result from a dew-pond there are three essential points to be fulfilled:—

1. The site of a dew-pond should be on high ground, facing the moisture-laden winds.
2. The substructure of the pond should be made of the most suitable and efficient non-conducting heat material, such as straw.
3. The superstructure of the pond should be composed of the most suitable heat-conducting material, so that the heat acquired during the day may be radiated as quickly as possible after sunset.

#### FUTURE POSSIBILITIES.

Referring to the garden observation of the dew being on the grass, or fertile land, and not on the gravel path, or desert waste, it seems possible that an explanation may be found as to why certain lands are rainless. The wind passing over the ocean must absorb a considerable amount of moisture, provided it is not already saturated, and yet that moisture will pass over islands and whole districts without any rain falling. Such lands are always barren rocky or sandy wastes, like the gravel path. On such desert land there would be very little dew deposited, for the surface of the land becomes baked during the heat of the day, and the process of cooling during the night is too gradual to allow it to become sufficiently cool to chill the atmosphere below the dew-point. The consequence is that the land remains dry and parched, and yet the rough grass, that may perhaps grow in some places, becomes drenched with dew during the night; but the air, warmed by the sun's rays of the day, quickly absorbs the dew, and the earth remains parched. What the air gives up at night it acquires during the day. Unless those conditions can be brought about by artificial means which will result in chilling the air on such a large scale as actually to change the climate, there is no chance of converting the desert wastes of the earth into fertile land. But this result will ultimately be attained in certain localities by the adoption of some form of dew-pond, or condensing surface, aided by the growth of trees, I have no doubt.

Take, for instance, the islands known as the Desertas, lying only twelve miles away from the island of Madeira. Madeira, as is well known, is a most fertile island, the luxuriance of its vegetation strikes all who visit it; but the Desertas, of exactly the same geological formation, have neither springs nor rivers, and rain is said never to fall. The islands are uninhabitable except for a few fishermen,

who succeed in obtaining water by hanging out fleeces, from which in the morning they wring out the water gathered in the night. Here man, in his necessity, has applied a simple law of nature. He has compelled the air to give up that which it would otherwise have retained. These rocky islands (the Desertas), only partially covered by shrubby grass, are admirably adapted for the construction of dew-ponds; the moisture-laden atmosphere could most readily be induced to deposit its moisture on to properly prepared surfaces. The water thus deposited during the night, however, would have to be run off into tanks so as to avoid its loss by evaporation during the day. The supply so obtained should, in the first instance, be used for rearing trees. The marked effect that trees have upon the climate is not generally appreciated, nor is it generally known how admirably they are adapted for extracting the moisture of the air.

In any scheme for procuring water in waterless lands trees must eventually play an important part, if not the most important part, and, therefore, at the risk of apparently departing from the question of dew-ponds, I am anxious to show the importance of arboriculture. Wood, as I have said, is a good non-conductor of heat, but the bark of a tree is a better non-conductor. The trunk of a tree is as slight as it can be with safety, having regard to the wind pressure on the spreading branches and the foliage. This being so, the whole superstructure of the tree is disconnected as far as possible from the earth, and the non-conducting property of the bark of the trunk further cuts off the heat rays from penetrating the wood. The trunk, branches, twigs and stalks to the leaves are each in turn as slight as possible, and the leaves themselves are as thin as may be. The leaves are, in fact, to a remarkable extent disconnected with the earth, and, owing to their great superficial area, as compared to their mass, they very quickly radiate into space any heat that they have may acquired during the day. Thus, shortly after sunset, these wafers gently flapping in the air having radiated their heat, chill the air as it passes over their surface, and this chilling of the air induces condensation upon them. If, now, the form of a leaf hanging down from its slender stalk is borne in mind, it will at once be realised how the water will drop off from its pointed end and fall on to leaves at a lower level, but which have a wider spread. This action is continued until the water drops to the ground around the margin of the tree's circumference. As a general rule, the roots extend underground just about as far as the branches do above ground. On still and cloudless nights this dew which has been deposited on the leaves may often be heard dripping to the ground, watering, in fact, the extremities of the roots, though not a drop of rain has fallen, and it is only at the extremities of the roots that the tree is capable of taking up the moisture for its nourishment. Nature has in the evolution of the tree most marvellously and perfectly fashioned it in all its parts, so that the maximum of moisture may be quickly extracted from the air after sunset.

Though there is the keenest competition between tree and tree in the forest, they do in fact co-operate together to bring about such a general chilling of the air as will result in inducing rain to fall. Think of the slight chilling effect upon the atmosphere by one leaf, and this effect must be multiplied by thousands for one tree, and this again by every tree in the forest. In *The Daily Graphic* of January 22nd, 1909, in an article on the "Effect on the Afforestation Scheme," it is stated that "The Washington Elm of Cambridge—a tree of no extraordinary size—was estimated to produce a crop of seven million leaves, exposing a surface of about five acres of foliage." A cold stream of air emerging out of a forest of such trees would come in contact with the surrounding warmer air which had not been subject to this chilling process. The contact of the atmosphere at different temperatures would probably result in such a copious condensation that we should appreciate its effect in a downpour of rain.

In the Official Year Book of the Commonwealth of Australia, speaking of the direct influence of forests on rainfalls, Dr. Hann is quoted as saying: "In the Cordilleras clouds with rain falling from them can be seen hanging over forests, while over contiguous lands covered with shrubs or used for agriculture the sky is blue and the sun is shining."

This same effect I have observed on more than one occasion while standing on the high ground

near Broadway in Worcestershire. With a great expanse of distant lands and sky stretched before me, I have seen the rain falling from dark clouds hanging over the wooded lands, while the sun was shining everywhere else.

To return again to the Desertas, or the Desert Islands, as the name implies. If young trees were here planted and the extremities of their roots were irrigated with the water from the dew-ponds that might be constructed, the trees should flourish. Their foliage, in the course of a few years, would probably induce rain to fall, and after this, these desert islands would become as beautiful and perhaps as prosperous, as their adjacent island, Madeira.

There is no need to dwell on the vital importance of obtaining water in waterless lands. The famines, which result in the death of thousands at a time in India, are due to the failure of the crops in a dry season, and the loss of millions of sheep which annually die in Australia is due to the lack of water. I am confident that a water supply can be derived directly from the atmosphere, and the result may be that, in other lands than ours, the words of Kipling may be sung:

*We have no water to delight  
Our broad and brookless vales,  
Only the dew-pond on the height,  
Unfed that never fails.*

## DISCUSSION ON MR. HUBBARD'S PAPER.

The President, Mr. HENRY T. HARE, in the Chair.

Mr. PAUL WATERHOUSE [F.]: I have much pleasure in proposing a vote of thanks to Mr. Hubbard. I need not apologise for doing so on the ground of ignorance, because there is nobody in England, save possibly Mr. Hubbard's brother, who knows as much about this subject as he does. We have all been deeply interested, and nobody more than myself. Mr. Hubbard, I am afraid, made cuts in his manuscript, and I am afraid left out the interesting description of the scientific performance of Gideon's fleece, which I wanted to hear again from his lips, because his way of explaining it is very simple and interesting. We shall all greatly enjoy reading his paper, which needs to be read thoughtfully.

Mr. JOHN W. SIMPSON [F.]: I would like to be allowed to second the vote of thanks. Mr. Hubbard has given us one of the most admirable and neatly expressed expositions of elementary scientific facts that I have ever had the pleasure of listening to. One is expected to acquire information of this kind from textbooks, but it is quite another thing to hear a practical exposition from a man who really understands what he is talking about. I think we are greatly indebted to Mr. Hubbard for his paper.

Mr. HUBBARD, Junr.: I would like to ask Mr. Hubbard what practical value the dew-pond would have in a place such as Australia, where, I understand, aqueous vapour which comes from the Pacific falls on the mountains a few miles inland from the east coast, so that the air in the centre of that continent is dry and the land barren. However much the temperature was reduced I gather that extraordinarily little moisture would be obtained from it. Would establishing dew-ponds induce vegetation under those conditions?

Mr. GEORGE HUBBARD: My son did not give me notice of this question. As far as I understood his question, it was—Would a dew-pond in the centre of Australia be a success? Could you get sufficient water from it to rear trees? I can say at once it would not be a success. The aqueous vapour is deposited as the air currents rise into high altitudes in passing the mountain range, and it is therefore a dry wind which descends on the barren land to the west of the mountains. But there are curious things in Australia; there are caves there which, in the absence of any suspicion of rain or springs, are filled with water. It comes out of the air, somehow. These caves must, I imagine, occupy elevated positions. As to Gideon's fleece, so far as I remember the record in Judges, he wanted to demonstrate that the Lord was with him. To do that he said he would lay down a fleece, and the dew would be deposited on the fleece and not on the adjoining land. On another occasion the whole process was to be reversed, so that the dew would not be on the fleece, but instead on the adjoining land. In the case of the dew being on the fleece and not on the ground Gideon must have put his fleece down early in the morning, when the earth was still cold. The consequence would be that the ground under the fleece would remain cold during the day, as it would be protected from the sun's rays, while the land around the fleece would be baked by the sun. So that on the following morning the dew would be found on the fleece lying on the cold patch of ground and the dew would not be on the surrounding land as the temperature then had not fallen below the dew-point. On the other occasion it cannot have been such an excessively hot day and Gideon must have put his fleece down in the evening, after the earth had been warmed by the



sun's heat during the day, thus the fleece was lying on a warm surface, and as a consequence no dew would be deposited on it. But the temperature of the surrounding earth did fall below the dew-point, and in this instance the dew would be on the surrounding earth, not on the fleece.

A VISITOR: Could not that result have been obtained by varying the nature of the soil on which he placed the fleece?

Mr. HUBBARD: That was not so, because the nature of the soil is given. You will find, in the Book of Judges, that it was a threshing-floor.

Mr. SIMPSON: I do not pretend to a greater knowledge of the Scriptures than Mr. Hubbard possesses, but my youthful recollection is that after Gideon had put the fleece down the first time it was full of water, and he wrung it out. And, as Mr. Hubbard has warned us, if you want your dew-pond to be a success you must not have damp between the containing surface and the ground. If, the second night, the fleece was slightly damp, it would account for the absence of condensation.

Mr. HUBBARD: The dampness of the fleece probably would have some effect, but it seems to me that the determining factor would be the time when the fleeces were put down. That is to say whether they were put down in the morning or the evening.

The PRESIDENT: I am sure this has been a most interesting paper, and quite an interesting discussion too. It seems to me it is a great pity that no attempt has been made to put this principle to practical use. I was mentioning it to a man who is a large sheep-farmer in Australia, and he was very sceptical about it. I asked him to come here and listen to the paper, but he was unable to do so. But I shall see that he has an opportunity of reading it. He said that if any man could succeed in producing a large quantity of water in Australia there is a very large fortune for him any day of his life. If such a system could be introduced into those districts of Australia which are waterless, it might be of very great value indeed. One point in Mr. Hubbard's paper I did not understand. In his description of the experiment which he and his brother made in constructing a dew-pond he described the way in which they formed the surface, and the upper surface was a black asphalt. Just before that he told us they had experimented with wooden boxes of certain colours, and that the black colour was the one which attracted the least water. If they had known that before, as I gather they did, they ought not to have used a black surface for the purpose of this experiment.

Mr. HUBBARD: You are right, sir. We did afterwards paint it with Hall's distemper, and the pond remained there a long time. But it was broken up in the winter when boys got on it and began skating.

The PRESIDENT: It is a great pity that these experiments cannot be carried further, and it is a pity some public authority cannot be induced to carry them out, because it would be of such enormous value in many parts of the world.

## CORRESPONDENCE.

Mr. Baillie-Scott's Paper.

23 Old Buildings, Lincoln's Inn: 3rd March 1919.

To the Editor, JOURNAL R.I.B.A. —

DEAR SIR,—I was unfortunate and missed Mr. Baillie-Scott's paper. I have just read it, and knowing that fundamentally we agree in the main things that matter I feel reluctant to write about the few points where we appear at any rate to be at variance.

Mr. Baillie-Scott says: "It is no use telling me that if a thing is fitted for its purpose it is beautiful. If instead of colour-washing an old stone wall we had cemented it over to a nice level surface ruled over with lines to represent joints it would answer the purpose well enough, but all the beauty and interest of the wall would be lost." "And so, when practical merits are claimed for ugly methods we must urge that the problem is only half solved, and that the worse half." I cannot admit that a result is practical unless it achieves a great deal more. There is one big principle common to all design—namely, consider the scheme first as a whole, then perfect the details, making them in harmony with the whole and with each other. Only he who can do this—poet, architect, sculptor, painter, engineer, soldier, musician—deserves the name of artist, and nobody else can be practical in the proper sense.

Architects, broadly speaking, follow one of two maxims. One is, make a thing right and it will be beautiful; the other, make it beautiful and it will be right. The former is adventurous and open to new methods and conditions, but ever alert to learn from the past. The latter is apt to lean too heavily on taste and precedent, and be ill prepared for fresh impressions. I think Mr. Baillie-Scott in his paper looks back too longingly. No man is big enough to do great things unaided by his generation. Napoleon was beaten, not because he lost a battle at Waterloo, but because he no longer held the will, the affection, and the confidence of the French nation and army. And so in art, as ordinarily understood, the highest must always express, amongst other things, the nation and the age to which it belongs. The great artist, even when giving his best, receives from his contemporaries more than he can repay. I think this is rather like what Mr. Lethaby meant when he spoke of the need of "a thousand men deep."

In architecture, one of our biggest difficulties, as Mr. Baillie-Scott said, is to find workmen trained to the appreciation of the qualities of materials and workmanship. We know where to go when we want craftsmanship of the highest order, but in the case of everyday masonry, bricklaying, and carpentry very few satisfactory men can be found because the ordinary tradesman has been taught to take pride in many of the very things we abhor. We are a good deal to blame for this. We have allowed "building construction" and "architecture" in the technical schools, etc., to become estranged without much protest. But I

still hope we may find a remedy. Could the R.I.B.A. found an association for tradesmen to be nominated by a number of architects under whom they had worked? Another condition of membership might require candidates to attend a short course on building ideals to be given at approved schools under supervision of the R.I.B.A. Perhaps in a few years a new clause insisting on membership of this association would be added to the official form of contract.—  
Yours faithfully, S. B. CAULFIELD [F.]

## WALTER ERNEST HEWITT [A.]

It is with sincere regret that I have to record the death of my friend Walter Ernest Hewitt, which took place upon February 19th last, at his residence, 28, Thornton Hill, Wimbledon, after a brief illness—septic pneumonia, following an attack of influenza.

Walter Ernest Hewitt was the third son of Mr. Walter Hewitt, a well-known resident of Surbiton. He was a comparatively young man, having been born on 3rd October, 1865. He died in harness in the 53rd year of his age. Educated at Haileybury, he served his articles to Mr. Rowland Plumbé [F.], 1883–1886; sat for and passed the examination for Associate R.I.B.A. in 1889, and commenced practice about that year or a little earlier at 7, Great College Street, Westminster, now demolished. Here it was we met, and here it was that we joined hands in the competition for the Surbiton Municipal buildings, our design being placed second by the assessor, the late Mr. Mountford.

His was a general practice. All he carried out, no matter what, from a parish hall to a shop front, was in good taste. From the first, however, he specialised in domestic work, and it is therefore to this side of his practice that we must turn to see him at his best. A clever draughtsman and detailer, an able planner, a very thorough man, in short, in all he undertook, is the best description I can offer of Walter Hewitt.

So many of his designs in and around London have appeared in the journals that it leaves me with little to add, except it be to refer to such of his works as the house he built for Mr. Percival Graves—known to us all as the author of "Father O'Flynn"—and the "Dormers," Bovingdon, Herts, the entrance court of which house appeared on the Academy walls in 1910, as being typical examples of his work.

Walter E. Hewitt was of a retiring nature, and it is therefore left to his many friends who knew him in his home to say what a genuinely kind man he was, and what a delightful companion he made when talking over his treasures, collected as a collector knows how to collect only. To see his books, prints, pictures and china was a real treat. He was a great bird-lover. No man in the world was a greater authority in the particular strain of pigeon he bred and developed in the spare hours granted him as a busy man.

A. HERON RYAN-TENISON [F.]



9 CONDUIT STREET, LONDON, W., 22nd Mar. 1919.

## CHRONICLE.

## The R.I.B.A. Record of Honour: Sixtieth List.

*Fallen in the War.*

HARTREE, Lieut. E. M., R.A.S.C., attached 8th Royal Berks Regt. At first reported missing, and subsequently killed in action, Aug. 8th, 1918. (Son of Mr. J. Hartree [F.]).

*Military Honours.*

RHIND, Brevet Lieut.-Col. SIR THOMAS DUNCAN, K.B.E. [A.].

Mobilised as a serving Territorial (Major 5th Battn. the Royal Scots) on the outbreak of war, and shortly afterwards appointed to the General Staff as Brigade Major. Called to War Office August 1916 and in December 1917 transferred to the Ministry of National Service, where he now holds position of Chief Recorder. Promoted Brevet Lieut.-Colonel June 1917. Received Order of Commander British Empire January 1918, and Order of Knight Commander British Empire January 1919.

ANSELL, Capt. W. H., R.E. [A.]. Awarded the Military Cross and twice mentioned in despatches.

TAYLOR, Major J. A. CHISHOLM [Student], son of Mr. Thomas Taylor [Licentiate], has been awarded a Bar to the Military Cross.

"For conspicuous bravery. At Briastre on 20th October 1918, on reaching the final objective, and finding that the leading company was being enflamed by an enemy machine gun, this officer took forward two men and a Lewis gun under heavy machine-gun fire. He put the gun in position, but was unable to get it to fire owing to the mud. He then brought up a German machine gun; this also he could not get to fire. He then went several hundred yards under very heavy machine-gun fire to obtain rifle grenades. These he fired and, going forward alone, shot two of the enemy with his revolver, the remainder running away. This officer's bravery and promptness of action ensured complete capture of the objective."

*Sir Frank Baines on War Factories.*

Sir Frank Baines's exceedingly interesting and valuable lecture on "War Factories and Sheds: their Construction and Adaptation to Future Needs," was only partly delivered at the meeting of the 17th. Sir Frank lectured for two hours, showed a large number of slides, and managed to condense an enormous mass of detail into a small compass, but it was evident that the subject was too vast to be dealt with at one meeting, and it was decided to

adjourn and to arrange for the remainder of the lecture to be delivered later. The date has now been fixed for the 28th April, the meeting to be held at 8 o'clock instead of 5. It may be mentioned that the most important part of the subject, that dealing with the adaptation of these remarkable buildings to peace purposes, has still to be dealt with.

#### Architecture and the Office of Works.

As briefly noted in the last issue of the JOURNAL, a deputation from the Institute waited upon Sir Alfred Mond at the Office of Works on the 12th February. The deputation consisted of Mr. Henry T. Hare (President), Sir Aston Webb, P.R.A., Mr. Ernest Newton, R.A., Major Harry Barnes, M.P., Mr. John W. Simpson, Mr. John B. Gass, and Mr. Max Clarke. Present with Sir Alfred Mond was Sir Lionel Earle, K.C.B., Secretary of the Office of Works. The following is a brief résumé of the proceedings.

Mr. HARE said that the Institute and architects generally throughout the country beheld the increasing activities of the Office of Works with considerable anxiety. It was not in the public interest that important Government work should be confined entirely to the operations of a Government department. During the last four years architects had been practically deprived of their livelihood, but now that Peace was in prospect they looked forward to some amendment of former conditions, and trusted it would be the policy of the Government to distribute such work as might be available amongst the profession generally.

Mr. JOHN B. GASS [F.], Past President of the Manchester Society of Architects, strongly deprecated the increasing encroachment of the Government departments on the legitimate concerns of the general practitioner. A purely State service, he argued, tended to the acceptance of what its official offered. In architectural work particularly there was not in that service the competitive thought or individual necessity for effort which was so essential in the successful maintenance of a private practice, both in regard to economy of construction and architectural development and expression. The State and the municipalities should, in the national interest, take advantage of such practice in connection with their building works. The Royal Institute and its Allied Societies had for many years striven for a high standard of architectural education. The Universities and the schools throughout the country were spending large sums on architectural education. Unless there was opportunity to bring this education into practical effect, much of it was lost, for it had to have freedom of expression, and this could best come through personal effort. The architectural profession in England had never been properly utilised by the State. Unless there was opportunity, it could not be expected that the best men would be attracted to the profession. In the national interest it was desirable that in the architectural work of the nation opportunity should be given for utilising to the fullest extent the services of architects engaged in independent practice, and particularly those who were specialists in various classes of work. The Government and municipal departments dealing with buildings should become more consultative and advisory; they would then be in a position to render the best national service.

Mr. JOHN W. SIMPSON [F.] urged that for a great Government department to undertake work by which a considerable section of His Majesty's subjects depended for their livelihood was to inflict upon them a real and very

grievous injustice. [The real basis on which the glory of a great department rested was not the aggrandisement of its scope, but regard for the public, and particularly of that section of the public which, by reason of its special training, was best fitted to judge of the measure of fitness of its work. It was not meet that a State department should undertake the work which a great profession was qualified to carry out, and without which they would be unable to fulfil their proper duty as citizens towards the State.]

Major HARRY BARNES, M.P., said that the deputation had come really in the interests of architecture. A great nation should have a great architecture, and Sir Alfred Mond was in a position to ensure that in the time they were entering upon the nation should be represented by a great architecture. To get a great architecture two things were necessary: a great impulse and an ample command of funds. The great impulse in the future would undoubtedly come from a new conception of the functions and duties of the State. That impulse would find its expression in the buildings which were put up by the State, whether in its local capacity or in its imperial capacity, to carry on its functions. But it was not sufficient to have this great impulse and an ample command of resources. They must have great architects; and it was impossible to have great architects unless they had a great school of architecture, and the great training school was practice. They wanted the Office of Works to feel its responsibilities as having the opportunity of stimulating the architectural capacities and powers of this country. What was done by the Office of Works was really a standard for work throughout the country. If the Office of Works considered that its architectural work could be done by its official staff, other official bodies would be likely to follow its lead. But if there was to be in this country a full expression of the architectural capacity of the country, there should be no reliance on official staffs, no matter how efficient. Architecture, after all, was an individual matter: it was not one which could be controlled in a routine way. As regards the specific question of building post-offices, he would have every local building designed, as far as it could be designed, by the architect in that locality. And, according to the scope of the building, its character, and the purpose it was meant to serve, he would draw in a corresponding number of men to compete for it. Architects felt that the Office of Works, by taking a large view of its position and its influence upon architecture, could do a great deal to make for it a future at least equal to, if not surpassing, its past.

Sir ALFRED MOND said that it was not merely a question of architects, it was a question of business organisation and of economy in carrying out work. The last work in contemplation before the war was a Board of Trade Office, and the competition for that was gained by an outside architect. The tendency in his department had been rather not to undertake any large buildings, but he had not yet made up his mind whether that was altogether wise. He certainly thought that if there was to be competition the departmental staff might be as much entitled to compete as people outside. The ability was there, but it had not had a chance of expression. He felt that architecture in England wanted a big lift up, and, from that point of view, he was entirely in sympathy with the view of the deputation. But he thought they had suffered in the past from want of concentration. There should be one considerable department, but it was very difficult to lay down its exact limits.

Sir ASTON WEBB said it was recognised generally what a wonderful work was done by the Office of Works during the

war in carrying out buildings of various sorts, and in an extraordinarily short time, and, no doubt, very well. But if that was to continue and to increase, what was to be the future for architects, or the future of architecture generally? And if Government buildings were to have priority, as well as housing, and the whole was to be carried out by Government departments, even private work which architects at present have would be stopped and architects themselves would gradually be absorbed into the Office of Works. Instancing post-offices, these were special buildings, and the Office of Works knew their exact requirements. If the Department were more of a consultative than an executive Department the general requirements would be given to a local architect, who would be able to submit his plans and have the advantage of official criticism. A proper variety and local character would also be given to the work, which would be distributed over the country. The Education Department worked in that way. All schools erected had to be passed by the Board of Education. The drawings went there, and, after being criticised and altered several times, finally were brought up to the standard of the department. He had always maintained that the intention in holding a competition was to discover the best architect, not to select the plan and have that plan carried out exactly as designed, because it must be altered by those who were to use the buildings. There was in the architectural profession a feeling of soreness and to some extent a sense of unfairness. The Office of Works had endless means at its disposal. What chance had an architect, with heavy rent and staff to pay? He was under a great disadvantage. If the Office of Works could take up the position of a patron of architecture and give a helping hand to the young man who showed distinction, by giving him a post-office to build, for instance, it might set him up for life.

Sir ALFRED MOND: To some extent we try to do that. We gave the Victoria Tower Gardens scheme to an outside man. We have never taken up the attitude of religiously conserving everything for the Department.

Sir LIONEL EARLE said the increase in the work of the Office of Works in the last few years was due to war needs. In a general way he did not think their work had increased. Every big building during his period of office, with the exception of one—the Armament building—commenced by his predecessor, had been built by an outside architect. All the other buildings, even the extension of the British Museum, had been done by an outside architect. In regard to outside architects doing post-office work he saw definite difficulties. When a post-office was being designed, his department was in daily consultation with the Post Office officials on the lay-out, and he did not see how a Manchester man, a Liverpool man, or a Bolton man could come to London every two or three days and attend to their instructions. Another important point was the strict financial control by the Treasury. He used to be a strong advocate for the buildings going to outside architects, but from personal experience since then of the appallingly unbusinesslike methods of some outside architects they had had to deal with, his opinion had been modified. He was out for getting the best results. He did not hold that the Office of Works of necessity made the best designs. And, to open up another question, he could not help feeling there was a weakness elsewhere than in the Office of Works. The biggest school of architecture was in America. He had been in touch with American work, and one reason of there being such a virile school there was that the students had been trained at the Ecole des Beaux-Arts, Paris. The men

sent there had genius, and, as a result of the training on that, they produced fine things. Our schools were not comparable with the French schools. [Mr. Hare: They are not, Sir. They are subsidised in France; they are not here.] He had pressed the Government to attract those who had won the English Grand Prix de Rome into this department, so as to improve its standard of architectural design, which was in many ways deficient, and he had put in a Minute to the Treasury to that effect, but there was a good deal of prejudice about it. The tendency outside was to think that because you are in a Government department you must become stereotyped and hidebound.

Mr. NEWTON: But a man has to become anonymous when he is in a department: the work is turned out by the department, not by a particular man.

Sir LIONEL EARLE: Designs have been shown at a Royal Academy Exhibition and elsewhere under the name of the architect. I have here cases of drawings shown under the name of the architect. We had a little exhibition this year in the Office, of water-colour sketches by our architects, and I was amazed at the kind of work, better than you could see in many of the galleries in London.

Mr. HARE: I know you have an extraordinary amount of talent in the Office of Works. And there is a reason for it. During the war, architects have been driven to seek posts in the Office of Works in order to get a livelihood. I am sure that, speaking broadly, if a man with the artistic temperament be put into a permanent position with a definite salary he becomes demoralised.

Sir ALFRED MOND: It depends on the strength of the artistic temperament in him. If he has that you may put him into a dungeon and you will not demoralise him. But, of course, there may be a tendency in that direction. I would not like to see every architect in the country in a Government department: far from it; but I think there is a little exaggerated fear as to the situation. I think it has arisen partly in regard to the housing schemes. But this department has nothing to do with housing schemes, and I do not know that it is likely to. The Local Government Board have appointed their own expert architect.

Mr. NEWTON: The Office of Works has had much work to do during the war which necessitated organisation and a highly skilled staff, and, being apprehensive, we have come before injury is done. We want to show that it is not so much for architects we feel as for the future of architecture. We feel that the young student has no great incentive unless he knows that he may, some day, be called upon, in recognition of his talent, to build some large public building. That is something to work up for. If he goes to various schools of architecture and spends money and strenuous years and, after all, does not get any share in important public work, it does not put architecture on a very high ground. We want the Office of Works to encourage the private architect, as is done in France.

Mr. HARE: We came here with the impression that the tendency of the Office of Works is to enlarge the scope of its operations. And if you can assure us that that is not the case or the intention, we shall go away pleased.

Sir ALFRED MOND: I cannot commit myself as much as that. It is very difficult to define the limits of my department's work. Supposing, in regard to the housing schemes, we found there was a certain area of housing not being done, and this department was told to go ahead and do it,



It is not for us to say "We cannot do it; it must be done privately." As regards local architects, some districts have not got architects who could handle a big scheme.

Mr. HARE: It is not merely a question of local architects, but independent architects, architects who are not official. An architect living a hundred miles away might very well carry it out. We are trying to ensure that the housing work shall be in the hands of architects, but how far we shall succeed remains to be seen.

Sir ALFRED MOND: I hope you will. I have a great deal of sympathy with you, I assure you. But I have to consider my own faithful and loyal staff.

The President having thanked Sir Alfred Mond for the courteous hearing he had given them, the deputation withdrew.

#### Professional Problems of the Moment.

A Special General Meeting, summoned by the Council to consider some of the professional problems of the moment, was held on Monday, 10th March, the President, Mr. Henry T. Hare, presiding.

The PRESIDENT having stated the object of the meeting called upon Mr. Gammell to open the discussion.

Mr. K. GAMMELL [A.]: Before I address myself to the particular business which brought me here, I should explain my position in the matter. In common with other members who have had something to do with the governance of the Institute, I have, for some considerable time, received a large number of letters from men, not only in this country, but outside it, asking me what is happening in the profession, and what is likely to happen, as well as offering suggestions as to procedures which might be taken. In approaching this matter I think it is advisable to enumerate five facts which I have kept before me in preparing to speak on this subject: First, I recognise fully, as was pointed out by Dr. Addison in addressing the deputation from the Institute, that our profession does not—to speak colloquially—represent the only pebble on the economic beach. Second, I realise that our greatest, if not our only, claim to the fullest consideration and sympathy from the community lies in this one point, that all ranks of the profession have at the cost of much time, expense, and trouble tried to fit themselves, so far as they can, to best serve that community. The third is—and this also has been admitted by Dr. Addison, as far as I read the report of the deputation's reception—that our profession has been more hardly dealt with than any other. The fourth is my belief, on the facts, that what I have stated creates a particular claim by our profession for exceptional consideration and sympathy. The last point is that the great reconstruction schemes which are going forward will be judged by those now living and those to come purely from that particular professional standpoint. And I suggest it will constitute, apart from the question of common sense, the most rank injustice to our profession if we are not given the fullest possible hand in carrying out those schemes. In considering the disabilities affecting our profession I divide the members into three classes. The class which undoubtedly has a prior claim to consideration constitutes those whom I would term the Service members. (Applause.) Of those who patriotically served during the war, a very considerable number find themselves in the position of having to begin their work again *de novo*. I cannot imagine any more parlous case than that of the Service member. The second class I would call the civilian architects, and they form by far the larger proportion of our

members. And although I suggest their case is not as bad as is that of the Service man, still I think it can be claimed that it is particularly bad. I would like to touch on one criticism which was offered by someone with whom I was discussing this matter. He said, "I grant what you say of the independent architect, but what about firms? I know a member of a firm of three, two of whom were forced to give up the work and take up something different from architecture, work which removed them from their localities. But one was left behind, and should have been able to keep together the threads or remains of the architectural practice." But I pointed out to him that, thanks to the legislation of the last three years, it was impossible for any man to keep an architectural practice together. That, I think, is a fair statement of fact. Therefore I suggest that this particular class is entitled to the fullest and most sympathetic consideration of the community. The third class is the civil servant, embracing not only those in Government employ, but also those working for municipalities. These can be further subdivided into two categories, the permanent and the temporary. With regard to the former, I do not think he comes into the picture at all. He is to be envied, in that he had found for himself what I suppose is congenial employment. At any rate, he was unaffected by the problem of finding work. As for the temporary civil servant, there may be something to be said for him; but I cannot bring myself to believe that any man who has "made good" in his wartime work is at the present moment in any danger of immediate unemployment. With the huge Government schemes which have to be at least licked into shape, it seems to me that the majority can look for a reasonable continuance of their employment, until better times come. Those are the disabilities of the members, as I see them. What are the palliatives which offer? I am aware that what has been euphemistically called the £500 limit has been removed, and certain embargoes on raw materials and dealings in the markets have also gone. That might suggest that normality would return very shortly. But is that the case? I suggest, from the authoritative pronouncements which have appeared in the public and in the technical Press for many weeks, and are still appearing, that normality is not likely to be reached in the immediate future. The question then arises, Can we put a period as to when normality is likely to happen? My work for the Government has, for the last five months, taken me into five of the Home Counties, and I have lost no opportunity of sounding every man who employs labour or is employed in the building trade and is in an authoritative position, as to what his beliefs were in regard to the restoration of normal conditions. And I am sorry to say that the consensus of opinion is that this cannot come about for at least two years. There are three reasons given for this. I shall touch only lightly on the first two, the third I want to dwell on more fully. The first point is the labour troubles. The second point is the difficulties in markets and in imports of raw material. The third point, the most important of all, is that, owing to the legislative measures of the last decade, the confidence which the public at one time possessed in the value of building as a reasonable and safe investment has been shattered (applause), and until this Government, or any other, can be made aware of the fact and by legislation restore this greatest of all industries to its proper position, there will continue to be an inequitable state of things. The men whose views I have given are men much more experienced than myself, and I do not doubt them. We are up against this fact, based on good opinion, that normality is not yet likely to come about.

Then what offers? And here I would say that I have come here not to direct the meeting, but hoping to be directed, and that I shall be given some information of a reassuring kind. But, above all, I hope that some action will be taken to-night which will constitute an attempt to bring about a better state of things, not only for our profession, but for all those who build, and I should be glad to be permitted to propose a certain resolution. Much as we all appreciate the efforts which the Council have made during these last years of the war in doing their best for our profession, I think we might go still further to gain this end by calling together all those bodies connected with the building industry, to consider the question of these great schemes which are coming on; and at that meeting prepare some form of memorial, or decide upon some action which shall have, as its major point, the great end of restoring confidence in the public mind as to the value of bricks and mortar. I believe there are men, within and outside this Institute, who can help us more than they have done, and I suggest it is up to every man who believes in the justice of his cause and who realises that we have been very hard hit, to fight, tooth and nail, for more equitable treatment than has been accorded to us in the past. I now propose formally, "That this Institute should, as the oldest, and only chartered, body in this kingdom representing Architecture, take steps to call a meeting of all those bodies which, in the opinion of the Council, should be invited to a meeting in London; and it should be the business of that meeting to consider the best steps to bring before His Majesty's Government the great need for legislation which shall, in some measure, go to restore public confidence in the building industry." That is the general idea; I was not prepared with a resolution.

Mr. W. HENRY WHITE [F.]: I will second that resolution for the purposes of discussion, but in doing so I would like to ask Mr. Gammell if he will put something more definite into it. Does he mean the repeal of the Finance Act, 1909? That has been the greatest stoppage the building industry has ever been subjected to. There is no doubt that the passing of that Act has tended to reduce building to a very great extent, and has resulted in people sending their money to foreign countries, instead of investing it in bricks and mortar at home.

Mr. MAX CLARKE [F.]: I would support Mr. Gammell's resolution, Sir, but I do not think it is desirable to tie the hands of this Committee if they are appointed. They should be given the broadest possible reference, and the Finance Act, of course, is only one of the points. With regard to the question of normality, I think that, for the moment, we have arrived at normality, at any rate, for a very considerable number of years. I do not expect that in my time materials of any kind can be had cheaper than they can be obtained at the present moment. I do not think that the wages of the workmen will be reduced. Last Saturday week all the members of the building trade got an advance of practically 2d. an hour, bringing them to what they call a "flat rate." That 2d. an hour gave the better-class tradesmen as high a wage as 1s. 9½d. an hour, and the average men—bricklayers, carpenters, and so on, to 1s. 9d. an hour. I do not see why that 1s. 9d. should be reduced, or how it can be reduced. When these things have once arrived at this stage it is very difficult to bring them down. Personally, I have no objection whatever to the bricklayer getting 1s. 9d. an hour. The only thing I object to is his doing as little as he possibly can for the 1s. 9d. (hear, hear). That is our difficulty. I had the prospect of getting some work to do. It was a small fac-

tory which was to be built at once. [My clients asked what it was likely to cost, and after considering the matter I told them that at the beginning of 1914 I thought this factory would have cost between £3,500 and £4,000, but that it would now cost between £7,500 and £8,000. Two days after that came this 2d. an hour increase. I have had 1½d. an hour increase, and I found that, as nearly as possible in the ordinary way, it comes to about 4 per cent. on the amount. I had to tell my clients that the additional 2d. would come to another 4½ per cent., or practically 8½ per cent. more than this time last year. The result was that the matter was postponed indefinitely. There are a certain number of people who would build because they have to build, or they make money by building, but perhaps not at those figures. Turning to the question of the housing of the working classes, it is a practical impossibility to build a house now for a workman which can be made to pay any remunerative interest at the present prices. (Hear, hear.) Of course, if a workman makes £5 a week he could afford, if he was careful, to pay £1 a week for his house, but that would be large. If he paid this £50 a year it would not be a very great interest on a house which cost £400 without the cost of land or the little et ceteras which mount up when one is building a house. So the only thing one can look forward to is the Government assisting the various bodies who will build workmen's houses. The only thing I find it difficult to make up my mind about it is, that architects, and town-planners and all these sort of people, talk such a lot—every paper is full up with talk—but there are no realities, there is no practical outcome of all the talk. You say you must not build more than twelve or eight houses to the acre, you must give a man a garden, you must put down grass, you must give him a bath, and so on. But all that kind of thing does not do good. All these competitions do not do any good. (Hear, hear.) I think I could make drawings for a dozen cottages which would not be a disgrace to me, which would be moderately convenient, but I do not think my client would make any money out of them. As to the solution of these problems I cannot offer a suggestion; it seems hopeless. I have actually seen it proposed in one of the building papers that the accepted standard of building materials should be lowered. So far as the position of architects is concerned, until all ranks among them band themselves together—(applause)—to try to do something for themselves they will be no better off. We are all too isolated, and we shall never be in a better position until we combine, whether by means of registration or not. It is to the rising generation I would address my remarks. Until the rising generation do something for themselves they will always be taking a back seat. (To take a recent happening. I hate to talk about it, but I think an architect ought to have been put into Sir James Carmichael's position. I am not afraid of saying it, because I think it. But he would have to be an exceptional architect.)

Professor S. D. ADSHEAD [F.]: I wish to say a few words, Sir, as I humbly represent one of those loquacious architects whom the last speaker mentioned as having talked a great deal and done nothing. I think the present situation has arisen because we, as a body, have not talked enough. Whilst I cannot, in all respects, support the resolution which has been put forward, I feel inclined to support it in the main. To criticise it in detail, I feel that it is, perhaps, too general, and so it is likely to lead nowhere, being liable to drift towards what one might describe as "high politics." Because, after all, when the question of the possibilities of building is carried right to the point, it rests upon

world-questions of labour and material, over which we, as a body, cannot possibly have any control. I feel we, as a body, are perhaps a little pessimistic at the present moment. Naturally this is a period of great stagnation and hesitation; but I feel sure that that time will pass. Whilst I feel there is every reason for doing all that we, as a body, can to bring to the notice of the general public the importance of the profession, I feel that the more important thing is to hold hard unto those more immediate assets which are in front of us at the moment. The last speaker pointed out that the immediate asset was the housing, and it is with that I have been most intimately concerned. I feel the time has come when we, as a profession, ought to direct our final efforts towards securing that all the housing work done is done under the direction of architects. I have been one of those who have been associated with the President during the period of the war, or at any rate during the last two years, in doing all that we possibly can to bring this housing into the architectural profession. And those who know what has been done I am sure will agree that the President has exerted every effort, and successfully too—(hear, hear)—in bringing that about, and now, I think, is the time for the final coup. I attended an important meeting of the delegates of Local Authorities, at the Local Government Board, when the general matter of the housing question was discussed with Dr. Addison. And Dr. Addison pointed out that a paper was shortly to be sent out to Local Authorities stating that the work was to be done by architects. And although he did not actually say that it would be made compulsory, he went as far as he possibly could in that direction. This, with that very important fact which would appeal to Local Authorities more than any other—namely, that the charges for outside experts would be placed to the credit of the National Exchequer, while charges of the officials would be placed to the rates, gives us an enormous hold on this housing work. I think that argument has not been sufficiently placed before the public, and if anything could be done, either by the formation of a Committee, such as Mr. Gammell points out, or in any other way, to bring to the notice of Local Authorities, and if possible, though more difficult, to the general public, that the charges for the preparation of plans of houses and schemes would be on the country, and not on the rates, I think it would have an enormous influence in still further promoting the objects of architects.

MR. ARTHUR KEEN: I do feel that what Professor Adshad said about the payment of architects coming out of the Government contribution, and the payment of the Borough Surveyor for these schemes coming out of the rates, is a very important matter. Much good would be done by calling the attention of the provincial societies to that fact, and letting each rub it in with its particular local Council. I take it that the great cost of building at the present time is due partly to the shortage of labour, which will be put right when general demobilisation is complete, and partly to the fact that there is a great scarcity of bricks, which, I hope, will be made up this summer. At any rate, before long the prices of bricks will come down very materially. Another element in the costliness of building is the great price of timber, which is very largely a question of tonnage. I think it will be a little longer time before that is put right, because the ships must be occupied first in bringing back food and in repatriating troops. The timber is there, and as soon as ships are free it will be at once available, and then prices will come down, unless wages continue to go up, though that is unlikely, because com-

petition will be rather severe among the working classes when demobilisation is accomplished. I think Mr. Gammell should tell us exactly what it is he is up against when he suggests that the Government should be invited to restore public confidence in bricks and mortar as a form of investment. I agree that it is desirable public confidence in them should be restored, but, so far as I know, the only thing that militates against it which the Government is responsible for is the Finance Act, Form 4 and the rest of it, providing for the taxation of increased land values. That, no doubt, put a stop to the speculating builder's work long before the war. If the repeal of that is what Mr. Gammell wants done, I think he should tell us so plainly, and I think he would have the sympathy of everybody. Apart from that, I do not know what there is that the Government can do. But in that connection I would suggest this: that the Finance Act has hit building very hard, but it is the speculating builder's work which it has specially hit, and that trade is one which the architect is not concerned with. ("He should be.") There is very little architecture in the work which the average speculating builder does: generally speaking, nothing. The effect of it has been to stop all building for the working classes until the scarcity of dwellings for them became so great that the Government insisted on the Local Authorities dealing with it themselves by offering a subsidy. This had to be done on a large scale, and architects have been employed up and down the country in all directions on housing the working classes, which is work they would never have touched if it had been left to the speculating builders. So, in a sense, though I agree that the working of the Finance Act has been disastrous for the country at large, I cannot think that, for our profession in particular, it has been a bad thing—in fact, I think it has been the reverse. Mr. Max Clarke criticised the town-planning section of the community for their much talking, and he felt that nothing came of it. But a great deal has come of it. Until these gentlemen did their speaking, town-planning was not done, by architects at all events. And now the effect of it is that every scheme in connection with these big undertakings in housing has to be laid down and has to be dealt with by architects, sometimes by the Borough Surveyor: at least it is done by a man of architectural attainments. Generally speaking, I think it is done by architects. That has been a result of those interested in town-planning pegging away and insisting that it was desirable. The Council is anxious to do everything in its power to move things, so that they shall get into a better groove. But I do not see what we can do at the present time except getting the Finance Act put right, and even that, I am afraid, is not going to help us very much. Anything we can do to urge the Government to release all materials in their charge and put them on the market freely would do good, I think the Government has got enormous stores of timber, but as they bought at high prices, they do not want to release it at prices which would show a loss. I do not think showing a loss matters; let them put the timber and other materials on the market, and then things will begin to move. What we want are practical suggestions as to the way in which action can be taken to move the responsible authorities.

MR. W. HENRY WHITE [F.]: Mr. Keen suggests that it is only the speculating builder who has been hit by the Finance Act, but there are other types of speculators—half London has been covered by the speculator. The huge blocks of flats and the large commercial buildings in London are mostly built by speculators, for profit-making purposes. They take a site, put up a building and

let it on the chance of making a profit. Millions of pounds have been spent in London in this way, and it is that money which has been diverted to other channels by the Finance Act. On this matter I can speak with some authority, because I come across it in my own practice. It is almost impossible to finance a building under present conditions. What I want to emphasise is, that it is not only the speculating builder who puts up workmen's dwellings who is hit, but the large number of the public who normally put their money into building operations.

Captain C. W. LONG [A.]: As a Service member I would like to say a word or two in support of the resolution, which, I think, should not be made any more definite, for it roughly embraces all the main points laid down. Two members have spoken to-night on the employment of architects in town-planning and such-like public undertakings. That is, at best, only a temporary measure, and it is a concession, not a right. I take it we are met here to-night more or less in our own interests, and, also, in our clients' interests. There is abroad a distinct feeling of unrest, whether it is because of the Finance Act, or the fault of the client, I do not know. The unrest does not originate in the high cost of building or of land, nor the abnormal charges for materials, it is due to Government intervention; however helpful it may appear to be to the working classes, it is, in the main, a definite hit at private enterprise. (Hear, hear.) I could instance various undertakings which, even now, would be put in hand but for the fact of pending Government enquiries into the profits and workings of organisations with the possibility of their being taken over by the State. That does not encourage a large business house, or a large insurance company, or even a bank, to indulge in private enterprise. I think it is all to the advantage of the proposed committee that its scope of enquiry is suggested on broad lines, for it is when a number of societies meet together knowing they have been given a free hand that they can then bring to light various grievances not immediately in view in the first instance. I would have such a committee go so far as considering the question of registration for ourselves, in order that we may be in a position to say that we, and we alone, should be engaged in the beautifying and the building of London, that we should be considered worthy of the responsibility of building for future generations, and so carry on with a clear right, and not as a concession.

Mr. D. B. NIVEN [F.]: I agree with the last speaker that the principal thing is to restore confidence, and if, by removing disabilities, that can be done it will be a very good thing. Still, even under existing conditions, there is much buying and selling of property going on, largely because owners do not realise that if they sell at something like pre-war value, they are giving a handsome profit to the purchaser. With regard to the increased value of buildings in the future, Mr. Max Clarke rather alarms me by the suggestion that prices are about normal now. If that were so, I think some of us would behave differently. The tendency is to choke off clients, and delay in going ahead because prices are abnormal. If it were true that the present figures are normal, we should not advise clients to wait. I feel that the present standard is a very abnormal one, and I therefore agree with Mr. Keen that the prices of many things will come down, and that the advance on pre-war rates should be about 50 per cent. instead of 100 per cent. as now. Professor Adshead's point that the cost of the borough official's work in carrying out these housing schemes will come out of the rates, but that private

practitioners would be paid by the Government, is a most important matter and one which should be pressed home, and we should take steps to bring it under the notice of allied societies.

Lieut. SCOTT COCKRILL [A.]: I wish to put in an amendment to the proposed resolution, namely, "That the Council consider the advisability of forming amongst the whole profession a union, on exactly similar lines to that already formed by the medical profession." What happened to the majority of young men when the war broke out? We were hustled into the Army. We were qualified architects, fit to take commissions in the Engineers, but we had to serve in the ranks, under unqualified men. The Chartered Accountants' Institute, however, came forward and took the Government by the throat: and that is what we shall have to do if we want to move them. We shall only be able to do that if we have a strong Union, and compel them to recognise us and the fact that we have at least the right to live. Until we do something like that we shall get no farther than we have in the past, which, to my mind is nowhere at all.

Mr. P. M. FRASER [F.]: The amendment is admirable, and an improvement on Mr. Gammell's, as I think he will probably agree. I understood Mr. Gammell to ask for a conference, not for a committee, and a conference is a vastly superior piece of machinery for this object. That conference should not consist of ten, twenty, but of several hundred. Every member of the profession should be approached, every class of the profession should be invited: the extra-mural men, allied societies, and societies not allied particularly should be asked. This will be an opportunity, once and for all, to crush the antagonism which exists between this Institute and the Society of Architects. I am sorry to say, with all due deference to the Council, that there has been unmistakable evidence, in the last two or three years, of studied snubs being offered to the Society of Architects, and whether they were intentional, or whether they grew out of ignorance about the Society's work and objects which exists on the part of the Council of this Institute for several years past, I do not know. But they were snubs, to the verge of being insults.\* And they have caused the very worst feeling. Feeling was bad enough in 1914; it is worse now. The Institute and the Society of Architects must come together. They are overtaking us very rapidly: are very much more alive than we are, and transfusion of new blood with the somewhat effete and colourless blood which runs through the veins of the Institute at present will have a very excellent result. This conference should deal with every possible point which members can bring forward. We ought even to report on the value of tariff reform to the profession. We want to restore the confidence of the public, not in bricks and mortar, but in architects. I was going to suggest, at the opening of the meeting, before you pressed Mr. Gammell to submit his resolution, that the function of this meeting should be to draw up a resolution for the purpose of discussing for what this conference should be called together.

Mr. GAMMELL: I take it you will afford me an opportunity to reply, Sir, to the amendment?

The PRESIDENT: I cannot accept it as an amendment; it is a different resolution. And I think the most convenient way of dealing with it would be, if Mr. Gammell's

\* The Council have no knowledge of any action on their part which would justify these remarks.—PRESIDENT R.I.B.A.



resolution is approved, that that should be one of the instructions, so that it would not come as an amendment. It is a different proposition altogether.

Mr. DELISSA JOSEPH [F.]: I think the last two speakers have, unconsciously, hit the nail on the head. The resolution proposed by the opener suggested that a group of societies should approach the Government with a view to asking them to restore public confidence in building investment. Consider what that means. Is it any business of a Government to make our task easy by endeavouring to restore public confidence in any form of investment? Is it any part of the work of an architect to endeavour to restore public confidence in any form of investment? I take it that the purpose of this meeting, called to consider professional problems of the moment, was probably to adopt some such course as Mr. Cockrill and Mr. Fraser indicated: that we should endeavour to put our house in order, to so consolidate the profession, so unite it, so close it eventually, that it might, as a compact strong body, be able not only to advance the immediate interests of the profession which we have now under consideration, but that it might also be ready, at any crisis, to stand up for the profession as a whole. Looking back over the last few years, what is the situation? No other profession has permitted itself to be absolutely suppressed, crushed out, as the architects' profession admits itself to have been. Why? Not because there was not work for architects to do for the advancement of the interests of the country during its period of crisis; simply because the profession was disunited, and, therefore, incapable of presenting an unbroken front to the Government and to the country. Passing out of a period during which our work has been thrown to the winds, we find ourselves attempting to re-establish our practices; surely this is the moment when we should stand shoulder to shoulder and, by endeavouring to consolidate the energies and intellect of the various groups of professional societies, try to close our profession by one of the various methods which have been discussed. We should so strengthen ourselves as to be able to face any new difficulties which may present themselves in the future, and to secure a better state of things for all. A few months ago some very interesting correspondence appeared in *The Builder*, initiated by Mr. John Murray, suggesting that the period before the end of the war should be spent in an endeavour to bring about this consolidation. I believe the matter was referred to at the Institute Council meetings, and it was generally understood that the Council itself had established a Committee which had been devoting considerable time and thought to dealing with the very aspects of the problem raised by Mr. John Murray. What is the result? We find the war over, we have no Report before us; we have no scheme before us, we have no guidance; nothing to help us in this crisis. The moral of this meeting is that we are unprepared. We were unprepared for war, we are unprepared for peace; and I hope you will permit the suggestions made by the last two speakers in their general sense to be incorporated in this reference, which should be as wide as possible. It seems impracticable to try to induce the Government to take a greater interest in the building industry unless we present a united front. Rather let us have a general resolution proposing the calling together of a conference of all the architectural institutions in this country, to consolidate and close the doors of the profession. And I think the first resolution might be recast in this sense.

The PRESIDENT: There seems to be some confusion of thought in the line the discussion has taken. Mr. Gam-

well's original proposal was that there should be a conference of all those interested in the building trade with the view of restoring public confidence in building. But the last two speakers have addressed themselves to the question of the profession only, and the points urged by them are such as could not be considered by a conference of the kind proposed by Mr. Gammell. The unity of the profession and the state of the profession are not questions which could be considered by a conference at which builders and others interested in building could be present.

Mr. GAMMELL: The proposal made by me arose out of opinions expressed to me by men employing upwards of 3,000 workmen. It was their considered opinion that although for a short time, perhaps four or five years, the troubles of our profession in the building world might be tidied over by a Government scheme for building cottages, we should ultimately again be faced with this same question of loss of confidence on the part of people investing their money in building. That is why I made this suggestion. And the point which appealed to me is that Dr. Addison, when he received the deputation from the Institute, intimated that we were not the only pebble on the economic beach. It is because I want that criticism met that I made my proposal. I believe that if united action were taken by all bodies interested in building to put forward a resolution or memorial to the Government, urging that in their considered opinion the legislation of the last decade had had the effect of retarding and crippling the biggest industry in this country, some good and sufficient result would ensue. And, whilst I am in sympathy with the last two speakers, I still think that they raise another issue altogether. I think it is advisable for us to close our ranks, but at the moment I think we should take a broader view. It is no good looking at a scheme which means the compulsory, or semi-compulsory, employment of an architect. This is going further. I want to see, during the next twenty years, some brighter prospect than there seems to be at present. My resolution is broadly worded, and if this Council is authorised to consider this matter, I think some good practical result will ensue. I am in the hands of the President and the meeting with regard to my resolution, but I cannot accept Mr. Cockrill's amendment as a means of meeting the dangers and difficulties which I foresee for our profession when these Government schemes of housing are finished. I think my resolution should be allowed to stand; and if the further resolution is brought forward, I will cordially support it. I cannot accept that or any other amendment to my original resolution.

Mr. WHITE: As Mr. Gammell's seconder, I hope that Mr. Cockrill's and Mr. Fraser's proposal will be put as a separate resolution and not as an amendment.

Mr. FRASER: Does Mr. Gammell suggest that this conference or committee shall include builders, contractors, house-agents, civil engineers, and surveyors, or be a conference of architects to deal with the interests of the allied trades and professions? My point is we cannot have a conference of people outside the architects' profession unless we are ourselves united. If the two resolutions are regarded as raising separate issues, then the second is much the more important, and should be dealt with, the other being left until we can call this conference of architects. Then we shall get something on paper and show a united front to those people whom we shall invite to go into the matter with us.

The PRESIDENT: There have been many side-issues raised in this discussion. Mr. Gammell—and we are very much obliged to him for coming here and opening this dis-

cussion—(applause)—and stating the defects and the difficulties of the profession in the very clear and lucid way he has—proposed a resolution to the effect that the Council be asked to consider the advisability of calling a conference of those interested in the building trades, for the purpose of making representations to the Government asking them to take measures to restore public confidence in building investments. Another element has been introduced into the discussion as a matter for consideration at such a conference, and that is the state of the architectural profession itself. A conference such as Mr. Gammell suggested, made up of architects only, would be incompetent to deal with this large question of confidence in the building trade. And it is obvious, I think, that a conference at which others than architects were represented could not be expected to consider our own domestic affairs. The two things seem to be totally different propositions. With regard to the discussion on the state of the architectural profession, I think I can probably clear the ground by saying that the subject Mr. Joseph referred to has been before a very strong Institute Committee, which is considering what can be done in the direction of altering, or amending, or strengthening the policy of the Institute for the benefit of the profession. That Committee is still sitting, and it has held a large number of meetings, and taken evidence from prominent architects and others. Obviously, it is a very important matter which is under consideration, and it is impossible for the Committee to report until the various questions involved have been carefully gone into. The very fact of that Committee's existence will probably satisfy those gentlemen who have raised the questions of the unity of the profession and the closing of its ranks, which are under its purview. Whether such a conference as Mr. Gammell suggests would produce any tangible result is a matter on which I do not feel competent to express an opinion. But it is certain that there is that lack of confidence in building, due mainly to the operation of the Finance Act, and if anything could be done in the way of representation to the Government perhaps we ought to do it. At all events, if the meeting carries this resolution, I am quite sure the Council will very carefully consider the matter, and will call such a conference if it can see any useful result being given thereby. Professor Adshead's point, as to the employment of architects in connection with housing schemes as against the employment of the local official, will also be carefully considered, and the Council will endeavour to press the matter with the local authorities in the most effective manner possible. It is an important question, and may have considerable influence on the situation. I think a very large proportion of the Local Authorities are moving in the direction of appointing architects; and we know the Local Government Board is using its influence to induce Local Authorities to appoint independent architects to carry out housing schemes. The Institute has done, I think, as much as it is reasonably possible to do—(hear, hear)—in this direction, and I have little doubt that the profession will be very largely occupied in this work, which appears to be the only building likely to go forward within the next year or two. With regard to the cost of building, of course every one who can is waiting for a more favourable opportunity of proceeding with any schemes in view: that is only the natural course. I cannot think that the present prices of materials will continue, and from what I have heard from some of the large London builders something will almost certainly happen in the next year or two with regard to wages. It

is obvious that if the cost of building continues at its present rate, unemployment in the building trade will result, and if this becomes serious a reduction in wages is sure to follow. I incline to agree with the suggestion that the ultimate result after 18 months will be a normal rise of something like 50 per cent. over pre-war prices. That is an increased cost which could be dealt with. I will now put Mr. Gammell's resolution, "That the Council be asked to consider the advisability of calling a conference of those interested in the building trades, for the purpose of making representations to the Government with the view to restoring public confidence in building."

THE PRESIDENT: Will you put it into writing, Mr. Cockrill?

MR. WHITE: Can the second resolution be sent to the Committee which is sitting?

MR. FRASER: I object to that, Sir.

THE PRESIDENT: It is a separate resolution entirely, and calls for a separate kind of committee or conference from the one Mr. Gammell proposed; and it is obvious that the same conference could not consider the two matters. Therefore I shall be in order in putting Mr. Gammell's resolution, and if the proposer and seconder of the second resolution will put theirs into form, I will put that later.

Mr. Gammell's resolution was then put, and carried.

MR. WHITE: Would it not strengthen the hands of the Committee now considering these professional problems if this resolution were sent up to it?

THE PRESIDENT: I see considerable difficulty in forming another committee or conference to consider the same subjects as the present Committee is considering.

MR. FRASER: Is that Committee entirely confined to members of the Council?

THE PRESIDENT: No, members of the Allied Societies are on it, and evidence has been taken from other societies.

MR. FRASER: I am out of order, but I want a conference which embraces the whole profession. The Committee of the Institute are working in shackles.

MR. WHITE: Are the Society of Architects represented on that Committee?

THE PRESIDENT: No; they could not be represented on an Institute Committee, but they have given evidence before it.

Professor ADSHEAD: And the outside public, too.

MR. DELISSA JOSEPH: When can we have the report?

THE PRESIDENT: It might be towards the end of this Session, but I am a little doubtful about that.

MR. GAMMELL: I am out of order, but I would say that if we do not move in this matter, we shall have our "pool scooped," and I want to see this Institute, as a Chartered body, taking the lead, not being forced to follow. If the movement does not come from the Institute, there will be a movement from other organisations in the country, and we shall have to take second place, as we have had to do before. I hope that will not happen.

MR. HERBERT SHEPHERD [A.]: I would like to say a word with regard to Mr. Joseph's remarks as to the unpreparedness of the profession. As a member of the Special Committee set up to deal with problems affecting the future of our profession, I would point out that the consideration of such a matter as the revision of professional policy is one which will take, and does take, a very large amount of time and much thought. The ramifications of the subject are innumerable, and the evidence brought forward very weighty, and one cannot expect a Committee of this kind to thrash out the many involved

questions that arise and get a report out quickly. It might take a year at the least. This Committee was appointed by the Council about a month after those letters appeared in the Press, and it is fully alive to the importance of furnishing a report as quickly as possible, and is making the best endeavours towards doing so. The question raised by Mr. Cockrill is being considered by this Committee.

The PRESIDENT: The second resolution is: "That this meeting is of the opinion that the time is ripe for the formation of a union for the purposes of restoring public confidence in the profession." It is proposed by Mr. Cockrill, seconded by Mr. Percival Fraser.

Mr. JOSEPH: I should not support the resolution if framed in that way.

Mr. FRASER: We have gone a little out of order in drawing this up. If Mr. Joseph will help us, out of his large experience, we shall accept his proposal without question.

The PRESIDENT: If you could formulate a resolution which could go to the Committee now sitting, it would meet the case. It is nothing more than the expression of an opinion.

Mr. JOSEPH: "That this meeting, called to consider the professional problems of the moment, urges upon the special Committee of the Institute to expedite its report, and to take into special consideration the practicability of bringing about a complete union of the profession."

This motion was put from the Chair and carried unanimously. The meeting then terminated.

#### Belgian Acknowledgments to British Architects.

The following graceful acknowledgment has been received of the hospitality and courtesies members were only too glad to afford Belgian architects driven to take refuge in this country in the early months of the War.

*Société des Architectes de la Flandre Orientale, Gand:*  
le 3 février 1919.

*The Hon. Secretary, R.I.B.A.—*

TRÈS HONORÉ MONSIEUR ET CHER CONFRÈRE.—Un de nos plus distingués confrères, Monsieur Valentin Vaerwyck, architecte en cette ville, est rentré depuis quelques jours à peine au pays après un séjour de quatre années et demie en Angleterre.

Au cours d'une assemblée générale tenue hier par la S.A.O.F., laquelle a l'honneur de compter comme membres les représentants les plus honorables de notre corporation dans cette province, Monsieur Vaerwyck a tenu à informer ses confrères de l'accueil si hospitalier qu'il a reçu en Angleterre. Il leur a dit spécialement que c'est grâce au R.I.B.A. que la plupart de nos confrères expatriés ont pu vivre dans des conditions parfaites de confort et de dignité. Il a signalé—et ceci nous a tous profondément émus—la procédure large et délicate employée pour mettre à la disposition de ces confrères l'aide dont ils avaient besoin. Ces procédés, Messieurs, doublent à nos yeux le prix de votre action.

Nous sommes particulièrement heureux, Monsieur le Secrétaire, d'être les interprètes de toute notre société pour vous prier de présenter à l'honorable président et à tous les honorables membres du R.I.B.A. nos remerciements les plus sincères. Nous sommes heureux comme professionnels de trouver parmi nos confrères britanniques des amitiés et des dévouements qui augmenteront encore la reconnaissance que nous avons déjà vouée comme patriotes à votre Grande Nation, notre puissante Alliée.

Agréez, s.v.p., Monsieur, nos salutations confraternelles. Signed by the President, Vice-Presidents and the Secretary of the Society.

The following reply was sent from the Institute:—  
*À Monsieur le Secrétaire de la Société des Architectes de la Flandre Orientale,—*

TRÈS HONORÉ ET CHER CONFRÈRE.—J'ai l'honneur de vous accuser réception de l'aimable lettre du 3 février qu'ont bien voulu m'adresser Monsieur le Président et le Bureau de votre honorable Corporation.

Communication en a été faite à M. le Président et au Conseil de l'Institut Royal qui m'ont chargé de vous exprimer, en réponse, la vive satisfaction qu'ils ressentent d'avoir trouvé l'occasion de rendre service à votre éminent confrère M. Valentin Vaerwyck, ainsi qu'aux autres architectes belges pendant leur malheureuse expatriation. C'est, d'ailleurs, avec le plus grand plaisir qu'ils constatent, d'après votre honorée lettre, la reprise de ses importantes fonctions par la Société des Architectes de la Flandre Orientale.

L'Institut Royal désire souhaiter, de tout coeur, bien de succès et de bonheur pour l'avenir à sa Société soeur de la Belgique. Puisse la lutte acharnée, si noblement menée, que vient de couronner une glorieuse victoire, resserrer encore plus étroitement les liens qu'unissent les artistes des deux pays alliés!

Veuillez agréer, très honoré et cher confrère, l'assurance de mes sentiments confraternels les plus empressés.

Le Secrétaire honoraire R.I.B.A.,  
E. GUY DAWBER.

#### The Proposed Zeebrugge Memorial.

It is proposed by the Anglo-Belgian Union to commemorate the heroic landing of the British forces on the Mole at Zeebrugge and the blocking of the Bruges Canal on 23rd April, 1918, by the erection of a memorial at the western side of the entrance to the Canal. The project is under the patronage of their Majesties King George and King Albert. The Society hopes to have at its disposal for this purpose a sum of £30,000, and announces a competition for the design of the monument which shall be open to architects and sculptors of British and Belgian nationality, competing either separately or in collaboration. It is desired that the monument should be visible at sea for a considerable distance, and it must thus be conceived on a large scale, the height from the ground to be not less than 75 feet. The form of the monument is left entirely to the competitors, but the material to be used must be granite or granite and bronze. The promoters suggest that the following incidents would be suitable subjects for commemoration:—(a) The storming of the mole; (b) the blocking of the canal entrance; (c) the blowing up of the viaduct; (d) the rescue of the blockship crews; (e) the co-operation of aircraft; (f) the smoke screens used by naval craft. Prizes will be awarded as follows:—1st Prize, commission and execution of memorial; 2nd, 3rd, and 4th prizes of £150, £75 and £50 each, respectively. Should the memorial not be executed, prizes of £200, £150, £75 and £50 respectively, will be given to the first four designs in order of merit. The jury of assessors will comprise Sir George Frampton, R.A. (chairman), M. Victor Rousseau, M. Paul Lambotte, C.B.E., M. Jules Brunfaut, M. Ryelandt, Mr. Ernest Newton, A.R.A., and Mr. M. H. Spielman, F.S.A.

The drawings and models must be delivered carriage paid at 9, Conduit Street, between 1st and 15th November

1919. All particulars of the competition can be obtained from the Hon. Secretary, Anglo-Belgian Union, 35, Albemarle Street, W.1.

### Sta. Sophia.

Sir Thomas Jackson raises the question of the structural stability of the dome of Sta. Sophia in a letter to *The Times* of 17th February last. While in Constantinople in 1910 he was asked by the Turkish Ecclesiastical Commission to inspect the building and report on its condition, and although he was unable at that time to make more than a short examination, the serious nature of its structural defects was very evident. He says:—

"I found on examining the building a serious inclination outwards in the side walls north and south, together with the columns on each floor next to them. The columns at the north-east and south-east corners lean out diagonally, both in the ground storey and the gallery. The north-west part, where the 'sweating column' stands, is better supported by buildings outside, but by plumbing the walls in the centre of the building it appeared that the inclination was as much as 1 in 43. This yielding of the side walls has dislocated the arches and the vaulting; the arches through the great buttresses are much deformed, and no longer semi-circular; some of the vaults have sunk badly, and one in the north gallery seems in danger of falling.

"An alarming bulge in the north-east pendentive catches the eye as one enters the church; but it is only when seen from the gallery surrounding the dome at its springing that the full amount of the disturbance can be detected. From that level it will be seen that three of the great arches carrying the dome are much deformed, and that all the pendentives have suffered and lost their shape, so that the base of the dome no longer forms a true circle. The dome is constructed with 40 ribs of brick, converging on a circle at the crown; the crown seems to have sunk, and many of the ribs, especially on the east, south, north-east, and south-west sides, have sunk so badly as to have lost their arch construction, and to have become either straight or convex on their under side, where they should be concave. . . . The deformation of the dome is nothing new; it is noticed in Salzenberg's volume, published more than half a century ago. It is the result of a long series of catastrophes; M. Antoniades gives a list of, I think, 35 earthquakes by which the church has been shaken, and by which, in my opinion, the resistance of the great buttresses north and south has been weakened. It is to them, I think, that attention should in the first place be given and to the great piers which they support, and till they are secured it would be in vain to try to mend the dome. That the dome has not fallen is due to the singular stability of this form of construction. I remember noticing at Casamicciola, in the island of Ischia, that while most of the ordinary churches were thrown down by the great earthquake of 1883, and were still in ruins, those that had cupolas were still standing. At Sta. Sophia Paul the Silentiary tells us that, while half the dome fell 21 years after it was built, the other half remained 'insecurely hanging in the air, a wonder to behold.' Its construction by ribs makes this very intelligible, and also makes any reconstruction more easy. That it has survived to this day is a wonder, but the time has come when something more than the patching and propping by which it has hitherto been sustained is necessary, and when the construction should be seriously and scientifically repaired.

"There is no need to dwell on the loss to the world should any disaster befall Sta. Sophia. It is a building

unique both artistically and historically. It is the perfect flower of Byzantine architecture; it is a marvel of construction that has never been rivalled or repeated; and it has been the scene of events from Justinian downwards that have influenced the history of mankind."

### A Student R.I.B.A. on Roman Architecture.

Mrs. Burnet Hughes [*Student R.I.B.A.*], wife of Lieut. T. Harold Hughes [*A.*], delivered a lecture recently on "Roman Architecture" to the Classical Society, at Marischal College, Aberdeen. Reviewing the history of Roman architecture from its beginnings at the foundation of Rome, she pointed out that the Romans received their early lessons in building from the Etruscans, who were especially at home with arch constructions, and that Roman architecture is a fusing of the style of building of the Greeks in that of the Etruscans. Though the Romans possessed little artistic feeling, they were an inventive people and thoroughly practical, and they had an unrivalled knowledge of construction and the use of material. The proportions of the Roman buildings might fall far short of the harmony of the Greek, but with their monumental effects they were perfect examples of the "grand manner." In Roman hands, too, the art of building was not confined to temples, but was extended in daring fashion and with the exercise of an intellectual imagination, to the solution of many difficult problems, the erection of palaces, amphitheatres, baths, basilicas, and triumphal arches. With modern building problems to face, the housing scheme of the Government and the erection of war memorials, we might with advantage employ the Roman principles of monumental planning.

It is of interest to mention that Mrs. Hughes, who is a niece of Sir John Burnet, while her husband was on service in France, helped to carry on his work as lecturer on Architecture at the School of Architecture, Aberdeen.

### Original MS. of Gwilt's Encyclopædia.

Among recent library purchases is one of more than usual bibliographical interest in the shape of the holograph manuscript of the original edition of Joseph Gwilt's famous *Encyclopædia of Architecture*. The MS., bound up in three volumes, is written on quarto paper and runs to upwards of 900 sheets, a great number bearing the author's signature. The single-handed undertaking of such a comprehensive work, including as it does the history, theory, and practice of architecture, was a great feat, the collection of the material alone involving enormous labour, and the painstaking character of the man seems to be revealed in his script. Gwilt wrote a hand of microscopic fineness, and though legible its minuteness must have made the compositor's task no easy one. The date 1839 appears on the fore-edge of two of the volumes, but the first edition of the work was not published until 1842, at least three subsequent and enlarged editions appearing during the author's lifetime, running at length to a ninth edition, issued in 1888 under the editorship of Wyatt Papworth, a re-impression of this last being printed in 1899. The MS. was formerly in the library of the late C. J. Shoppee.

### Channel Islands Church Plate.

*The Church Plate of the Deanery of Jersey. So. Jersey 1917; and The Church Plate of the Deanery of Guernsey. So. [1918.] By S. Carey Curtis, A.R.I.B.A.*

With the publication of the latter volume the author has now given us a complete inventory of the Channel Islands church plate, for the two lesser islands of Alderney and Sark form part of the Guernsey Deanery.



Following a very brief introductory sketch of the historical periods into which the material may be divided an annotated and fully illustrated catalogue of the plate is arranged under the different parishes. Excepting three pieces of the pre-Reformation period, most of the earlier church plate in the islands belongs to the seventeenth and eighteenth centuries, and is mainly of English origin. Notable among the earlier pieces is a rarity in the shape of an altar cruet, known as the Guille cruet, now forming part of the service in the church of St. Peter Port, Guernsey. This has been described by Mr. W. H. St. John Hope in the *Proceedings* of the Society of Antiquaries, who ascribes it to the early part of the sixteenth century.

Great pains have been taken in the compilation of the lists, which include exact records of all inscriptions, the names of donors, supplemented by brief biographical and heraldic notes, with reproductions of the hall and makers' marks. The material dealing with Jersey is reprinted from the Bulletin of the Société Jersiaise for 1917.

#### Dilapidations Practice.

The well-known Institute handbook on "Dilapidations," first published in 1903, has just been issued in a new and revised form under the editorship of Mr. Sydney Perks, F.S.A. [F.]. Since its first appearance various cases have been decided and enactments passed which affect the practice of dilapidations, and these are dealt with in the new edition, bringing it up to date. The wording of the repairing covenant has also been improved and simplified. The work is issued at the price of 2s. 6d. net.

### OBITUARY.

**William James Davies [A.]**—The death has occurred from pneumonia of Mr. W. J. Davies, an Associate of the Institute since 1904. He was articled to Mr. T. E. Lidiard James, of Chancery Lane, and for a period acted as managing assistant to the late Mr. R. A. Briggs. Mr. Davies was a member of the Institute Literature Committee, in whose work he was much interested, as well as in the general development of the Library, being himself a keen book collector. He was the joint author of *Tuition in Engineering, Sanitation, etc.*, with Mr. Moss-Flower, with whom he was formerly in partnership in Bristol. For some years he had been serving in the Department of Ancient Monuments and Historic Buildings at H.M. Office of Works. Sir Frank Baines, K.B.E., in a letter to the Institute, referring to the special services rendered by Mr. Davies during the war, and to the high esteem in which he was held by the Department, says:

"Upon the outbreak of war he assisted very materially in connection with the work for the defences of London, and was afterwards engaged upon the organisation rapidly got together for buying timber for the Armies in the Field, etc., where he gave the most devoted service. When that service was transferred to the Board of Trade he was employed upon work in connection with some of the greatest war factories in this country, where his devotion to duty and integrity of character gave the most excellent results."

"I fear that the severe strain through which he worked

for many years must have reduced his power of resistance to disease, and all who knew him at this Office realise that they have lost a colleague of great personal charm and of the highest character. He brought to his work an enthusiasm which was an inspiration to some of his junior colleagues.

"Before the war we used him very fully in connection with our work upon Ancient Monuments and Historic Buildings. His value on such work was extraordinarily high, and his quality is, I think, shown in the essay which he submitted for the Institute Medal in 1913, entitled 'The Preservation of Ancient Monuments,' and which was judged to be the best by the Institute."

**Albert Lewis Guy [F.]**, who died on 5th February at the age of 69, was elected an Associate of the Institute in 1882 and a Fellow in 1904. He served his articles with the firm of John Brown, of Craven Street, Strand, and started practice forty years ago in Lewisham, having offices also in London in Gray's Inn. Among his works are the Lewisham Girls' Grammar School, St. Mary's Parish Hall and Institute, Sydenham Public Library, Brookley Public Library, Northfleet Board School, Salisbury Hotel and block of shops, Lewisham. He also carried out the Electric Parade and some thirty shops at Clacton-on-Sea, the Electric Parade and thirty-four shops and the London and South-Western Bank at Westcliff-on-Sea, and Broadway Buildings, Leigh-on-Sea. He was architect of various houses, his most recent work being extensive alterations to Westfield Place, Battle, the seat of Major Mullens.

**Mr. Fred Bath [F.]**, of Salisbury, who has just died after undergoing an operation, was in his 72nd year, and in practice at Salisbury for 46 years. Elected an Associate in 1881, and Fellow in 1887, he was the architect of the Albert Bridge Flour Mills, Battersea, S.W., and of the County Hall, Fisherton schools, Milford Manor, New Sarum House, etc., of Salisbury, the Memorial Church at Sherfield English, and many other works in Wiltshire, Dorsetshire, Somersetshire, Middlesex, and Surrey. Mr. Bath carried on his practice until his death, but had taken a much less active part in his profession during the last few years of his life, owing to ill health.

**John Woolfall [F.]**, who died on 25th February at his home, Briar Cottage, Formby, Lancs, in his 71st year, was born at Huyton, near Liverpool, and belonged to a very old Lancashire family, which for many generations lived at Woolfall Hall, Huyton. He received his early education there, and served his articles with the late Mr. E. Davis, of Temple Court, Liverpool. Later on he was with Mr. C. E. Grayson, of 31 James Street, Liverpool, for many years as Head Assistant. In 1890 Mr. Woolfall entered into partnership with the writer at 60 Castle Street, Liverpool, and this association continued up to the time of his death. Mr. Woolfall was elected a Fellow of the Institute in 1903, and was President of the Liverpool Architectural Society during the period 1902-1904. Of late years Mr. Woolfall had devoted his energies to the planning and carrying out of a large number of premises for one of the leading banking companies, and for this he was singularly gifted. He possessed great planning ability, especially in commercial buildings, schools and the like. He also had a singularly clear insight into all questions relating to light and air and other legal points connected with the profession. His disposition was of a most kindly and cheery character, and many clients, as well as builders, would testify to the justness and uprightness of his dealings. Mr. Woolfall was unmarried and lived with his only sister, whose devotion to

him could not have been surpassed, and to her much sympathy has been extended.—T. E. ECCLES [F.].

**Matthew G. Martinson** [*Licentiate*], who died suddenly from pneumonia, on 13th November, 1918, was elected to the *Licentiate*ship in 1910. He was the youngest son of the late Mr. John Martinson of Bellingham, Northumberland, and received his education at the County School, Barnard Castle. After serving his articles with Messrs. Plummer & Burrell of Newcastle-on-Tyne, he joined the staff of Messrs. Barnes & Coates, of Sunderland. He subsequently carried out a good deal of work for Sir Charles Morrison Bell at High Green Manor. Becoming chief architectural assistant under the surveyor to the Northumberland County Council, he designed the new County offices and various police stations whilst in that office. Early in 1913 he was appointed architect to the Northumberland Education Committee and in this capacity completed the Wallsend and Whitley Bay secondary schools and designed and carried out Monk Seaton, Newbiggen, Hoxham and North Seaton schools. A quick and good draughtsman, all his work showed a sound grasp of construction. He took a great interest in the work of the Northern Architectural Association on which body he had served as a member of council. Outside his profession Mr. Martinson interested himself in Freemasonry and belonged to the Percy Lodge. He leaves a widow and four children, to whom our sympathy goes out.

J. G. B.

## COMPETITIONS.

### Pineapple Farm, Birmingham, Housing Competition.

The following notice has been issued by the Birmingham Architectural Association, through whose instrumentality, by means of personal interviews with the Lord Mayor of Birmingham and the Chairman of the Housing Committee, a better understanding has been arrived at with regard to the intentions of the Housing Committee as to the appointment of an Assessor and the employment of one or more of the successful competitors in the erection of their designs: "The misunderstanding between the Housing Committee of the City Council and the representative Associations of Architects with regard to the terms of this competition having been satisfactorily removed, the Birmingham Architectural Association wishes to inform architects that the Housing Committee has been good enough to extend the date for sending in plans until noon on Thursday, 23rd April, in order that architects desirous of competing may be enabled to do so."

### Borough of Ipswich Competition for Model Dwellings. City and County of Newcastle-upon-Tyne Lay-Out Scheme for Housing.

The Competitions Committee of the Royal Institute of British Architects request Members and *Licentiate*s of the Institute not to take part in the above Competitions until a further announcement is made that the conditions have been brought into conformity with the Institute regulations for the conduct of architectural competitions.

## MINUTES.

At the Eighth General Meeting (Ordinary) of the Session 1918-19, held Monday, 17th February 1919, at 5 p.m.—Present: Mr. George Hubbard, F.S.A., *Member of Council*, in the Chair; 15 Fellows (including 3 members of the Council), 7 Associates, 2 *Licentiate*s, and a few visitors—the Minutes of the Meeting held 3rd February were taken as read and signed as correct.

The decease was announced of the following members:—Henry Winter Johnson, of Market Harborough, elected Fellow 1904; Charles Dudley Arnott, of Shanghai, elected Associate 1911; William Edwin Johnson, elected Associate 1893.

Mr. H. T. Buckland [F.] having read and illustrated by lantern slides a Paper on "FACTORY BUILDINGS, CHIEFLY IN RELATION TO THE WELFARE OF THE WORKER," a discussion ensued, and on the motion of Mr. Max Clarke [F.], seconded by Mr. D. Barclay Niven [F.], a vote of thanks was passed to the author by acclamation and was briefly acknowledged.

The proceedings terminated at 7 p.m.

At a Special General Meeting (Ordinary) held Monday, 3rd March 1919, at 5 p.m.—Present: Mr. Henry T. Hare, *President*, in the Chair; 36 Fellows (including 14 members of the Council), 24 Associates (including 4 members of the Council), and 9 *Licentiate*s, the purpose of the Meeting having been announced:

The President moved, Mr. George Hubbard, F.S.A. [F.], seconded, and it was

RESOLVED, by acclamation, That subject to His Majesty's gracious sanction the Royal Gold Medal for the promotion of architecture be presented this year to Mr. Leonard Stokes, in recognition of the merit of his executed work.

The Special General Meeting then terminated.

At the Ninth General Meeting (Business) of the Session 1918-19, held Monday, 3rd March, following the Special Meeting above recorded and similarly constituted, the Minutes of the Meeting held 17th February having been taken as read were signed as correct.

The decease was announced of the following members: Horace Cheston, elected Associate 1873, Fellow 1885; Fred Bath, elected Associate 1881, Fellow 1887; Walter Ernest Hewitt, elected Associate 1892; John Woolfall, elected Fellow 1903, and Captain Philip Dennis Bennett, elected Associate 1914.

The Hon. Secretary having referred to the valuable service rendered the Institute by the late Mr. Horace Cheston as member and Vice-Chairman of the Science Standing Committee, it was Resolved that an expression of the Institute's deep regret for his loss be recorded on the Minutes, and that a message of sympathy and condolence be conveyed to his son, Mr. John Alford Cheston [A.].

The following candidates were elected by show of hands:—

### AS FELLOWS (9).

MORLEY: ERIC [A., 1909], Bradford.  
SWARBRICK: JOHN [A., 1902], Manchester.  
TUGWELL: SYDNEY [A., 1911], Bournemouth.  
TYRWHITT: THOMAS [A., 1900].

And the following *Licentiate*s who have passed the qualifying examination:

ALLEN: GEORGE PEMBERTON, Bedford.  
COLERIDGE: JOHN DUKE.  
FORREST: GEORGE TOPHAM, Chelmsford.  
HODGSON: ARTHUR NICHOLAS WHITFIELD, Windermere.  
WILLIAMSON: WALTER, Bradford.

## AS HON. CORRESPONDING MEMBER.

KRUG: GEORGE HENRY, Brazil, Professor of Architecture under the State Government.

## AS ASSOCIATES (48).

ALISON: WALTER [S., 1912], Dysart, Fife.  
BEECH: FREDERICK WILLIAM [S., 1908], Exeter.  
BENNETT: GWYN [S., 1910].  
BROADHEAD: FRANK ARTHUR [S., 1911], Nottingham.  
BRUCE: JOHN CLAYTON COLLINGWOOD [S., 1913], Whitby.  
CAMERON: ROBERT HUNTER [1913], Glasgow.  
CART DE LA FONTAINE: PHILIP [S., 1911].  
CASH: HERBERT WILLIAM [S., 1910].  
CLARE: ALFRED DOUGLAS [S., 1913], Manchester.  
COLERIDGE: PAUL HUMPHREY [S., 1910].  
CURRIE: JOHN KIRKWOOD [S., 1918].  
DERRY: DOUGLAS CHARLES LAWFORD [S., 1917].  
EDWARDS: ARTHUR TRYSTAN [S., 1915], Merthyr Tydfil.  
EDWARDS: JOHN RALPH [S., 1912], Bristol.  
GILL: MAURICE BERNARD [S., 1913].  
GLENCROSS: LESLIE HAROLD [Special War Exam.].  
GRAY: GEORGE HALL [S., 1912], North Shields.  
HARKESS: WILLIAM [S., 1912], Dorset.  
HARWOOD: ARNOLD WILLIAM [S., 1911].  
HASELDINE: CYRIL FRANK WM. [S., 1913], Beeston.  
HEAD: GEORGE LESLIE [S., 1912].  
HILL: HENRY HOUGHTON [S., 1905], Cork.  
HUBBARD: HARRY [S., 1914], Glasgow.  
LAWSON: EDWIN MADDISON [Special War Exam.], Chester-le-Street.  
LAWSON: JOHN SCOTT [S., 1913], Dunfermline.  
LEADAM: EVELYN GRAHAM SEATON [S., 1913].  
LEAHY: WILLIAM JAMES [S., 1909].  
LLOYD: ALBERT PEREGRINE [S., 1914], Swansea.  
MAY: THOMAS WILLIAM VIVIAN [S., 1914].  
MIDDLETON: VIBERT [S., 1908], Newcastle.  
PITE: ION BERESFORD [S., 1914].  
ROBINSON: NORROVE STUART [S., 1912], Spilaby.  
ROSE: GEORGE ALFRED [S., 1913].  
ROWNTREE: DOUGLAS WOODVILLE [S., 1908].  
RUTHEN: ERNEST SIDNEY [Special War Examination].  
SACRE: LESTER HOWARD [S., 1914], Chelmsford.  
SAUNDERS: BERNARD ROBERTSON [S., 1913], Birmingham.  
SKELDING: PERCY [S., 1912], Bristol.  
SKINNER: MARTIN [S., 1902], Walton-on-Thames.  
SLATER: MARTIN JOHNS [S., 1912], Hadleigh, Suffolk.  
SMITH: CHARLES WILLIAM [S., 1915], Cambridge.  
SPENCE: ANDREW TEBBUTT [S., 1912].  
STEPHENS: HERBERT STANLEY [S., 1913].  
TUNNARD: HY. BARTHOLOMEW [S., 1914].  
WHITE: THEODORE FRANCIS HANSFORD [S., 1913].  
WIGGINS: JOHN STANLEY [S., 1913], Brighton.  
WILLIS: WILLIAM ELIA [S., 1908], Pentre, South Wales.  
WOODROFFE: NORMAN FREDERIC [S., 1911].

The meeting then proceeded to the consideration of the Revised Scale of Professional Charges, the President stating that the document was in some respects a revision of the Scale which was passed in 1915, and ruling that the various clauses should be discussed and put to the vote *seriatim*.

Mr. Gillbee Scott [F.], Hon. Secretary of the Scale of Charges Committee, explained the alterations which had been made as each clause was put to the meeting.

On the motion of Mr. Bernard Dicksee, it was agreed that the title should read "Scale of Professional Charges adopted in 1872, and revised in 1898 and 1919."

Clause (a) of the Conditions of Engagement was adopted, 2 voting against it.

On the motion of Mr. A. Saxon Snell [F.], it was agreed that the second sentence of Clause (b) should read "He shall be nominated or approved by the architect, and ap-

pointed and paid by the client." Clause (b) as amended was then put and carried.

A proposition by Mr. H. Hardwicke Langston [A.] to substitute the word "employer" for "client" was put to the vote and negatived.

Clauses (c) and (d) were carried.

A proposition to substitute the word "design" for "Works" in Clause (e) it was agreed to submit to the Institute solicitors, whose decision should be final. Clause (e) was then carried.

Clauses (f), (g), (h), and (i) were carried as drafted.

Clause 1, sub-clauses (a) and (b) of the Scale of Charges, was put and carried as drafted.

Clauses 2 and 3 were deleted.

Further consideration was adjourned to Monday, the 24th March, and the Meeting separated.

An Extra-Ordinary General Meeting was held Monday, 10th March, 1919, at 5 p.m.—Present: Mr. Henry T. Hare, President, in the Chair; 15 Fellows (including 5 members of the Council), 9 Associates (including 3 members of the Council), and 2 Licentiates.

The President announced the object of the meeting—viz., to consider some of the professional problems of the moment.

A general discussion ensued, in which the following members took part:—Mr. K. Gammell [A.], Mr. W. Henry White [F.], Mr. Max Clarke [F.], Professor S. D. Adshead [F.], Mr. Arthur Keen [F.], Captain C. W. Long [A.], Mr. D. B. Niven [F.], Lieut. G. Scott Cockrill [A.], Mr. Percival M. Fraser [F.], Mr. Delissa Joseph [F.], Mr. Herbert Shepherd [A.], and the President.

Upon the motion of Mr. K. Gammell [A.], seconded by Mr. W. Henry White [F.], it was

RESOLVED, That the Council be asked to consider the advisability of calling a conference of those interested in the building trades, for the purpose of making representations to the Government with the view to restoring public confidence in building as a means of investment.

On the motion of Lieut. G. Scott Cockrill [A.], seconded by Mr. Percival M. Fraser [F.], it was

RESOLVED, That this Meeting, called to consider the professional problems of the moment, urges upon the Future of Architecture Committee to expedite its Report, and to take into special consideration the practicability of bringing about a complete union of the profession.

## NOTICES.

## Revised Scale of Charges.

The GENERAL MEETING (for Members only), adjourned from the 24th March, will be held on MONDAY, 7TH APRIL, at 5 p.m., to resume consideration of the REVISED SCHEDULE OF PROFESSIONAL CHARGES, commencing with Clause 13.

CHINA.—Two assistant architects required in the Works Department of the Chinese Customs at Shanghai. Candidates must be Associates of the Institute, at least 25 years of age, have a good knowledge of reinforced concrete design and construction, and some responsible work to their credit. Address the Secretary R.I.B.A.

## R.I.B.A. Publications.

HOUSING OF THE WORKING CLASSES: Cottage Designs awarded Premiums in the Competitions conducted by the R.I.B.A. with the concurrence of the Local Government Board. Demy 4to. 5s. net; post free, 5s. 6d.

DILAPIDATIONS: A Handbook prepared by the PRACTICE STANDING COMMITTEE of the R.I.B.A. and issued by the authority of the Council. Second Edition, Revised. Demy 8vo. 2s. 6d. net; post free, 2s. 9d.

9, CONDUIT STREET, REGENT STREET, LONDON, W.



## REPORT OF THE COUNCIL FOR THE OFFICIAL YEAR 1918-1919.

**S**INCE the publication of the last Annual Report the Council have held 22 Meetings. The following Committees appointed by the Council have met and reported from time to time on the matters referred to them :—

Board of Architectural Education.  
Competitions Committee.  
Fellowship Drawings Committee.  
Finance and House Committee.  
Royal Gold Medal Committee.  
Town Planning Committee.  
Selection and General Purposes Committee.  
Conditions of Contract Revision Committee.  
Future of Architecture Committee.

Housing Committee.  
Hon. Members Committee.  
Building after the War Conference.  
Architects' War Committee and Sub-Committees.  
Charing Cross Bridge Committee.  
Informal Conferences and Sessional Papers Committee.  
R.I.B.A. War Memorial Committee.  
Reconstruction of Devastated French Towns' Committee: British Section.

Brief particulars of the work of some of these Committees are embodied in this Report.

**Obituary.** The losses by death have been as follows :—

### FELLOWS.

Bath: Fred.  
Brewer: Cecil Claude.  
Cheston: Horace.  
Cresswell: Herbert Osborn.  
Currey: Percivall.  
Farrow: Frederic Richard.

Garbutt: Matthew.  
Gough: William Venn.  
Guy: Albert Lewis.  
Johnson: Henry Winter.  
Palmer: Fairfax Blomfield Wade.

Plumbe: Rowland.  
Pogson: William Norman.  
Porter: Horace.  
Wadling: Henry John.  
Williams: Robert.  
Woolfall: John.

### ASSOCIATES.

Arnott: Charles Dudley.  
Baird: William.  
Carter: Charles Petwood.  
Clarkson: William Albert Paxton.  
Fleming-Williams: Charles Lionel.

Gladding: Alfred.  
Glazier: Richard.  
Gradon: Henry Thomas.  
Green: Walter Godfrey.  
Hewitt: Ernest.  
Johnson: William Edwin.

Kershaw: Thomas.  
Knewstubb: Joseph John.  
Nisbet: Norman Clayton Hadlow.  
Peckham: Arthur Nyton.  
Piper: Charles Welborne.

### LICENTIATES.

Barker: Walter John Raymond.  
Bush: Edwin.  
Dight: Alfred Henry.

Manning: Charles.  
Merriman: George Frederick Maskelyne.

Murray: Thomas Edward.  
Webb: Bernard Hugh.

### RETIRED FELLOWS.

Nevill: Ralph.

Robins: Edward Cookworthy.  
Wonnacott: Thomas.

Wiley: Robert.

### HONORARY CORRESPONDING MEMBER.

Day: Frank Miles.

In addition to these normal losses the Council have to record the loss of 1 Fellow, 15 Associates, 5 Licentiates, and 9 Students who have fallen in the War. Particulars of these are given on a later page of this Report.



**Membership.** The following table shows the present subscribing membership of the Royal Institute compared with the preceding five years :—

	Fellows.	Associates.	Hon. Associates.	Total.
1914	852	1,695	56	2,603
1915	857	1,713	54	2,624
1916	852	1,679	52	2,583
1917	842	1,656	48	2,546
1918	838	1,631	45	2,514
1919	834	1,770	46	2,650

During the official year since the last Annual General Meeting 12 Fellows and 120 Associates have been elected, as against 21 Fellows and 10 Associates the previous year.

**Licentiates.** There are now 1,836 Licentiates on the roll. Since the publication of the last Annual Report 6 Licentiates have passed the Examination qualifying for election to the Fellowship, and have been duly elected as Fellows.

**The Examinations.** During the year 33 candidates for Probationership have furnished the Council with satisfactory evidence of their attainments and have been registered as Probationers.

The Intermediate and Final Examinations have been held once only during the official year—viz., in June. The following table, giving the results of the Examinations, shows that 42 Students have been added to the Register during the year, and that 6 candidates have passed the Examination qualifying for Associateship :—

	Exempted.	Examined.	Passed.	Relegated.
INTERMEDIATE EXAMINATION	40	2	2	0
FINAL AND SPECIAL EXAMINATIONS	—	13	6	7

The Statutory Examination qualifying for candidature as District Surveyor in London was held in October, and one candidate presented himself, but failed to pass.

The Council tender their grateful acknowledgments to the Honorary Examiners for their services.

**Arbitrators.** During the year the President has appointed the following members to act as Arbitrators in connection with building disputes :—

Sir Frank Wills.	Max Clarke.	Arthur Keen.
James Crocker.	John Slater.	

**Grants.** Since the issue of the last Annual Report the Council have made the following grants :—

Architectural Association	£100 0 0	Architects' Demobilization Committee	£25 0 0
Architects' Benevolent Society	100 0 0	Board of Scientific Societies	20 0 0
London Society (towards expenses of Charing Cross Bridge Bill Petition)	26 5 0	Archaeological Joint Committee, British Museum	2 2 0

**Royal Gold Medal.** The Royal Gold Medal for Architecture was awarded to Mr. Ernest Newton, A.R.A. The Medal this year is to be awarded to Mr. Leonard Stokes, *Past President*, in recognition of the merit of his executed work. His Majesty has graciously signified his approval of the award.

**Appointments.** During the Session the Council have made the following appointments of members to represent the Institute on the various bodies or for the purposes indicated :—

Conference convened by Surveyors' Institution on Government Proposals to subsidize Housing Schemes—Mr. E. M. Gibbs (Sheffield).

Ministry of Labour Appointments Department—The President.

Central Building Industry Committee—The President and Mr. H. D. Searles-Wood.

Conference on Standardization of Size of Bricks—Messrs. H. D. Searles-Wood and Max Clarke.

British School at Rome—Mr. John W. Simpson reappointed for three years.

University of London Architectural Education Committee—Messrs. Paul Waterhouse and Arthur Keen.

Conference re Ministry of Health Bill—Messrs. E. Guy Dawber and H. D. Searles-Wood.

Conference on Post-War Developments relating to Public Health—Messrs. E. Guy Dawber and H. D. Searles-Wood,

Tribunal of Appeal under the London Building Act—Mr. John Slater reappointed for five years.

Archæological Joint Committee, British Museum—Professors W. R. Lethaby and A. C. Dickie.

British Engineering Standards Association : Panel for Fittings for Water and Gas Installations—Mr. H. D. Searles-Wood.

The President, the Hon. Secretary, Mr. Arthur Keen, Professor Beresford Pite, and Professor Lethaby were appointed a deputation to interview the Education Authority in connection with the subject of training in Secondary Schools.

**Sessional Papers.** The Council, reverting to the pre-War practice, have devoted the Sessional Meetings to the reading of Papers, the choice of subjects being largely dictated by the special needs of the times. The following Papers have been read :—

Nov. 18.—“A Chepstow Housing Scheme,” by Wm. Dunn [F.].

Dec. 16.—“Housing: The Architect's Contribution,” by Raymond Unwin [F.].

Jan. 20.—“The Making Habitable of Old Dwellings in Town and Country,” by M. H. Baillie-Scott.

Feb. 3.—“War Factories and Sheds: Their Construction and Adaptation to Future Needs,” by Sir Frank Baines.

Feb. 17.—“Factory Buildings, with Special Reference to the Welfare of the Worker,” by Herbert T. Buckland [F.].

March 17.—“How to obtain a Water Supply in the Absence of Springs, Rivers, and Rain,” by George Hubbard, F.S.A. [F.].

March 31.—“Legal Difficulties in the Administration of Building Contracts,” by Capt. Rimmer, M.Inst. C.E.

The following Papers remain to be read :—

April 28.—Conclusion of Sir Frank Baines' Paper on “War Factories and Sheds.”

May 26.—“American Railway Stations,” by Benjamin J. Lubachez, of New York.

June 16.—“An Architect's War Experiences in France and the Balkans,” by Edward Warren [F.], Major, Serbian Army.

According to the Institute records, Members, Licentiates and Students who served with the Forces during the War number altogether 1,255—viz., 79 Fellows, 540 Associates, 336 Licentiates, and 300 Students. The list, however, is far from complete, many members joined up during the last two years having failed to notify the Secretary. The following completes the list of members who have fallen :—

FELLOW.			
HAILLEY: JAMES MITCHELL WHITE	Major, Royal Engineers		Killed in action.
ASSOCIATES.			
BARRY: FRANCIS	Capt., East Surrey Regt.		Killed in action.
BENNETT: PHILLIP DENNIS	Capt., 5th Lancashire Regiment		Died on service.
BINNING: ALAN	Serjt., London Scottish		Killed in action.
CABLE: JAMES SYDNEY	Lieut., Royal Garrison Artillery		Killed in action.
DAVIES: JOSEPH CHARLES GLADSTONE	Lieut., Egypt Exp. Force		—
DUNN: GERALD MORTON	2nd Lieut., Royal Garrison Artillery		Killed in action.
GORRINGE: WILFRED STUART	—		Killed in action.
HARTMANN: CHARLES HERBERT	Lieut., Royal West Kent Regt.		Killed in action.
HOOLEY: TOM WILLIAMSON	2nd Lieut., Durham Light Infantry		Killed in action.
IXER: SYDNEY HOWARD	Lieut., Royal Naval Volunteer Reserve		Died of injuries.
MISSOR: PHILIP	Lieut., Durham Light Infantry		Killed in action.
STONE: GEORGE MARRISON	2nd Lieut., Royal Engineers		Killed in action.
TOONE: JOHN ALGERNON EDMUND	Capt., Australian Divn., Pioneers		Killed in action.
WATT: JOHN DOUGLAS DICKSON	—		Killed in action.
WHITELEY: CHARLES TAYLOR	Lieut., Royal Warwickshire Regt.		Killed in action.
LICENTIATES.			
HOCKWAY: GILBERT JOHN FRANK	Private, Cambridgeshire Regt.		Killed in action.
JANE: WILLIAM	Major, Royal Engineers		Killed in action.
METTHAM: JOHN ARTHUR	Capt., Royal Engineers		Killed in action.
TINNISWOOD: ALFRED	Lieut., Royal Engineers		Killed in action.
WILLIAMS: WILLIAM HAROLD	Lieut., Royal Garrison Artillery		Killed in action.
STUDENTS AND PROBATIONERS.			
CHALKLEY: THOMAS HENRY	Lieut., Machine Gun Corps		Killed in action.
KNIGHT: PHILIP	2nd Lieut., King's Royal Rifles		Killed in action.
LAWTON: WILLIAM VICTOR	Lieut., Royal Engineers		Accidentally killed.
LOWRIE: WILLIAM JOHN	Private, Seaforth Highlanders		Killed in action.
PENDERREL-BRODHURST: BERNARD RICHARD	Lieut., Royal Engineers		Killed in action.
PITE: HORACE VICTOR WALTER	Lieut., Hampshire Regt.		Missing, believed killed.
REYNOLDS: JOHN ERIC	Lieut., Royal Air Force		Killed in action.
WALLER: THOMAS JENKINSON	2nd Lieut., Northumberland Fusiliers		Killed in action.
WOODHOUSE: CECIL HERBERT	Capt., York and Lancaster Regiment		Killed in action.

**Memorial Service.** A Memorial Service for members of the architectural profession fallen in the War was arranged by the Council and took place on the 4th December at St. George's, Hanover Square, the Rector, the Rev. F. N. Thicknesse, officiating and delivering a brief address. The function, the musical portion of which was very beautifully and feelingly rendered by the church choir, was a particularly impressive one. By kind permission of Col. Sir Henry Streatfeild, C.B., the drummers and buglers of the Grenadier Guards were in attendance and sounded the "Last Post" and the "Réveillé."

**Proposed R.I.B.A. War Memorial.** The Council have had under consideration the provision of a Memorial to members of the Institute who have lost their lives in the service of their country, and a committee is considering the position and design.

**Members' Military Distinctions.** In continuing the Record of Honours awarded members for conspicuous bravery or gallant and distinguished service in the field, the Council feel that the brilliant record of an Associate of the Institute during his brief career as a soldier merits special mention.

Reference is made to Major-General Charles Rosenthal, Associate, elected 1904, who before the war practised at Sydney, N.S.W. Joining up in the early days of August 1914, having had experience as an officer in the Australian Militia he was quickly singled out for command and left Australia with the rank of Lieut.-Colonel commanding a division of the Australian Field Artillery. He took part at the landing and subsequent operations at Gallipoli, served in Egypt and the Sinai Peninsula, and afterwards on the Western Front, went through the fighting at Fromelles and on the Somme in 1916, at Bullecourt and Messines and the Third Battle of Ypres before Passchendaele in 1917, was in the German offensive in March 1918, and later fought at Villers-Bretonneux and Morlan-court. Promoted Major-General in March last, he commanded the 2nd Australian Division in France in all the heavy fighting of the great counter-offensive until the final battle and capture by the Australians of Montbrehain. He has been five times wounded. His honours include Mention in Despatches six times; the award successively of the C.B., C.M.G., D.S.O., the Belgian Croix de Guerre, the French Croix de Guerre with Palm, the French Legion of Honour, and the K.C.B. The Institute is justly proud of its distinguished Associate, and the Council tender to him the thanks of members and their warmest congratulations.

The following is a further list of distinctions won by members:—

*D.S.O.*—Lieut.-Col. G. W. Ridley [A.]; Major Maurice Webb, M.C. [F.]; Major H. C. Atkin-Berry, M.C. [Student]; Major F. S. Hammond [Licentiate]; Capt. J. A. Chisholm Taylor, M.C. [A.].

*Bar to M.C.*—Capt. P. H. Keys, M.C.

*M.C.*—Major W. S. Huxley [Licentiate]; Capt. G. W. Fraser [F.]; Capt. J. A. C. Taylor [Student]; Capt. G. H. Williams [A.]; Lieut. T. F. W. Grant [A.]; Lieut. J. O. B. Hitch [A.]; Lieut. F. J. Lenton [A.]; Lieut. W. L. Mellor [A.]; Capt. W. H. Ansell, R.E. [A.].

*French Croix de Guerre.*—Major P. H. Keys, M.C. [A.]; Capt. Percy P. Cotton [A.].

*Italian Silver Medal for Military Valour.*—Lieut.-Col. G. W. Ridley, D.S.O.

*Italian Croce di Guerra.*—Lieut. Horace Cubitt, R.E. [F.], also mentioned in Despatches (France).

**Architects and the Military Service Acts.** The summoning of men for Military Service up to the age of fifty-one in the last months of the War led, at the instance of the Architects' War Committee, to a deputation from the Institute to the Ministry of National Service to represent that architects then being called up were often men of affairs accustomed to responsibility and the direction of important undertakings requiring resource and initiative, and suggesting various directions where their knowledge and experience might be utilised with advantage to the technical branches of the Services. The result of the deputation was entirely satisfactory, special arrangements being made at the Ministry to ensure the new architect recruits being drafted into positions where their technical attainments would be of service.

The Council early last summer, having had brought to their notice instances of hardship to architects caused through the want of knowledge of architectural practice shewn by the Tribunals dealing with appeals under the Military Service Acts, applied to the Ministry of National Service for recog-

nition of a Board of Inquiry set up by the Council to act in an advisory capacity in architects' appeals for exemption. The application was acceded to, and the Board, consisting of ten members, with the Presidents of Allied Societies as *ex-officio* members, held several sittings and dealt with various applications.

**Demobilisation of Pivotal Men.** A deputation of architects and surveyors headed by the President waited upon the Minister of Labour early in October to press the claims of architects and surveyors in the Services to be classed as pivotal men and to have priority of release upon the cessation of hostilities. The claim was eventually allowed, and a suggestion made by the deputation that employers should be encouraged to apply for the release, prior to general demobilisation, of the members of their staffs most necessary to them was also among the arrangements adopted after the Armistice. The Council is represented on the Demobilisation Committee set up by the Architects' War Committee with the concurrence of the Government, and a grant towards its expenses has been made out of the Institute funds.

**Building Restrictions.** The Building Materials Supply Committee of the Ministry of Reconstruction having invited the Council to appoint representatives to express their views respecting the supply of building materials, the resumption of building work, and the advisability of control after the War, the President, Mr. Paul Waterhouse and Mr. John W. Simpson were appointed and gave evidence urging that markets should be left free and unfettered by restrictions, that production should be stimulated to the utmost, and that at the termination of hostilities Government control both as regards the supply of material and the erection of buildings should cease. It was also pointed out that the chief cause of unduly high prices—one of the questions contained in the reference—was the system of payment of workmen by time rather than by results.

There being indications after the Armistice that the Government intended to maintain the restrictions which had been imposed during the War with such grievous results to those dependent upon the building industry, protests on behalf of the Institute were made in letters to the Press and to the Ministry of Reconstruction. The Council ultimately had the gratification of receiving a message from the Ministry stating that the regulation requiring licences to build had been cancelled.

**Publication of "Cottage Designs."** The premiated designs in the Cottage Competitions conducted by the Institute with the concurrence of the Local Government Board were duly delivered to the Board, and were accompanied by a report from the President setting out the points which had guided the assessors in making their selection. The designs, numbering altogether forty-nine, have since been published in book form, together with notes and comments by the assessors and a series of general recommendations to Local Authorities on the steps to be taken and the principles to be followed to ensure the success of their housing plans.

Included in the President's report above mentioned was a suggestion that a group of houses should be erected from the premiated designs in or near London to serve as models in connection with the Government Housing Schemes. The suggestion was accepted, and the Institute was informed that the Local Government Board was in communication with the London County Council with a view to the work being carried out by the latter in conjunction with the Institute and the Local Government Board architect, the idea being that the Council should provide a site, and that eighteen houses should be erected from the premiated designs in the Cottage Competitions and six from those in the Local Government Board's Housing Memorandum. A suitable site has recently been provided on the London County Council's Old Oak Lane Housing Estate at Hammersmith, and arrangements for the erection of the cottages are in progress.

**Housing of the Working Classes.** A deputation from the Institute headed by the President waited upon Dr. Addison, President of the Local Government Board, on the 31st January to call his attention to the fact that in spite of the recommendations in the Report of the Ministry of Reconstruction that housing schemes should be placed in the charge of competent architects, there was a disposition on the part of Local Authorities to employ for the work officials of their own



who were not architects. The deputation urged that the work was essentially architects' work and should be placed in the hands of architects. Dr. Addison, in reply, paid the profession the compliment of saying that the Central Authority were looking to architects to help them to get out of the habit of building ugly houses for the industrial classes, and promised that the attention of Local Authorities should be drawn to the desirability of employing architects for the work.

Earlier in the session a Memorandum was addressed from the Institute to every Local Authority in England and Wales representing to them the importance of appointing an independent architect as their first step in the preparation of a housing scheme, and quoting in full the recommendations above referred to from the Report of the Ministry of Reconstruction. It was pointed out that the employment of an independent architect of standing and experience would result in great economy besides ensuring the provision of houses pleasing in appearance and healthy and convenient to live in.

**The Office of Works and Independent Architects.** At the instance of the Council a deputation, headed by the President of the Institute and accompanied by the President of the Royal Academy, waited upon Sir Alfred Mond, First Commissioner of Works, to remonstrate against the ever-increasing tendency of his Department to engage in work which, in the interests of the community and of the progress of architecture in this country, ought to be open to the whole profession. The

Minister was reminded that the function of his Department was originally confined to works of maintenance and repair, but that it had now been extended to include the carrying out of every class of building erected out of public moneys, with the result that the independent architect was deprived of some of the most coveted opportunities for the exercise of his calling and of fulfilling his duties as a citizen towards the State. The Council regret to have to report that the reply accorded the deputation was not satisfactory, the Minister expressing his inability to define the limits of the operations of his Department, and stating that he was in the hands of the Government and had to carry out their requirements. The Council feel that the matter is of the gravest importance to the profession and further action is under consideration.

**The Future of the Architectural Profession.** The need of an early solution of some of the more pressing problems which face the architectural profession at the moment moved the Council before the close of last Session to appoint a Committee of investigation, empowering them to take evidence and collect the views of those deemed competent to speak on the various matters involved. Represented on the Committee, which is known as the Future of Architecture Committee, are the Council, the Past Presidents of the Institute, and the Allied Societies. Numerous meetings have been held, and evidence has been given by prominent members of the Institute and the Society of Architects, and also by unattached architects and the Institute of Builders. The questionnaire deals with such matters as the unsatisfactory state of the profession and means of remedying it; the minimum essential acquirements for ordinary general practice, and the modifications necessary in architectural education to secure them; the reorganisation of the Institute; unification of the profession; how to prevent the unqualified practitioner bringing the profession into disrepute; technical specialisation; the relationship between architects and technical experts; the tendency of the public to go direct to builders instead of employing architects; whether architects should personally undertake building operations; the relations of the profession to State and Municipal Departments, &c. The Committee's instructions are to frame a report on the evidence and opinions collected and to submit a scheme of reconstruction for consideration.

**R.I.B.A. Conditions of Contract.** The Committee appointed to revise the Institute Form of Contract have completed their labours, having held thirty-nine meetings. Considerations guiding the revision have been recent legal decisions and the various difficulties in connection with the existing Form of Contract which have been before the Practice Committee from time to time. The Forms used by various public bodies and by individual practitioners have also been carefully studied. The Council have now sent the Revised Draft to the Institute of Builders and the National Federation of Building

Trades Employers with an invitation to those bodies to express their views on the document and submit to the Institute any proposals or amendments they may consider desirable.

**The Law of Ancient Lights.** The movement in legal circles to amend or get rid of defective or unduly restrictive laws, many of them Judge-made, suggested to the Council the possibility of reform in the Law of Ancient Lights, a law which has borne very hardly on owners of building sites in this country, often subjecting them to vexatious litigation, very frequently preventing the full development of their property, and leading in a large number of cases to the mutilation and disfigurement of otherwise fine buildings. It seemed to the Council that the most effective method of dealing with the matter was to bring in a Bill which, by the prevention of the acquisition of right to light, would secure to the owner of a building site liberty to develop his property to the full extent of its capacity. A Bill was accordingly drafted under the title "Acquisition of Light (Restriction) Bill" (see JOURNAL for December, page 45), which was presented to and approved by the General Body at a meeting on the 2nd December last, when the Council were authorised to take steps to get it passed into law, if possible. The Bill provides that no rights of light shall be acquired after the date of the passing of the Act. Should the measure become law, it is hoped that means may be taken to extend its scope so as to deal with existing rights by the establishment of a technical Tribunal to deal with claims and dispense with much unnecessary litigation. The Bill is now under consideration by the proper authority, and it is hoped it will be taken up as a Government Bill. It is of interest to note that since the Bill was sent in, the State of Victoria has passed a Bill in almost identically the same terms as the Institute Bill.

**Committee for the Fine Arts, Oxford University.** The Institute has been in correspondence with the University of Oxford on the recent establishment at the University of a Committee for the Fine Arts. Their opinion having been invited on the matter, the Council expressed the view (1) that the policy of the University in regard to the Fine Arts—and particularly architecture—should be educational, not instructional in any strictly technical sense; (2) that painting, sculpture, and perhaps especially architecture, could be advantageously studied at Oxford from the critical and historic standpoint, suggestions to this end being offered by the Council, and (3) that a knowledge of drawing need not be a necessary condition of admission to the course of study in architecture which the University has in contemplation; and that ignorance of technique, method and material should not be a bar to initiation into the study of architecture. It was further suggested that, without establishing a School of Fine Art, the University might with advantage incorporate a course of study in Art as part of the syllabus of the School of Literæ Humaniores as well as of the History School, and that a Craft Museum in which something of the theory of construction in various materials might be learned would be helpful.

**The Charing Cross Improvement Scheme.** In November last a joint deputation from the Institute and the London Society, headed by the President, waited upon the Improvements Committee of the London County Council to lay before them the views of the two bodies on the question of the erection of a new Bridge at Charing Cross. The deputation suggested that an unrivalled opportunity now presented itself of carrying out a far-reaching improvement by the construction of a bridge which would not only be of very real benefit to the public, but, with its approaches, would serve also as a magnificent and most appropriate National Memorial of the Great War. The Chairman of the Committee, in reply, expressed the view that the proposal would receive the County Council's very sympathetic consideration.

**St. Olave's, Southwark.** The proposal to pull down St. Olave's Church, Southwark, re-erect it in a different locality, and to sell the site for commercial purposes was strongly protested against on behalf of the Institute in a letter to the *Times*,\* and advantage was taken of the opportunity to press home the point that our City churches are among our most cherished possessions, that their value is not

\* Reprinted in JOURNAL for June, 1918, p. 189.

to be judged merely by the use to which they could be put by their trustees, nor their sites to be considered as financial assets to be sold for commercial purposes at any profitable opportunity. Later, on the Bill to sanction the scheme coming before Parliament, representations were made by the President to the Chairman of the Select Committee on the Bill that the design of the church had been clearly dictated by its surroundings, and that it would be disastrous both on practical and æsthetic grounds to re-erect it on an entirely different site. The suggestion was also put forward that if not required as a church, the building would serve a useful purpose as an institute, mission-house, or club for the work-people employed in the neighbourhood. Other counsels prevailed, however, and an Act was passed authorising the demolition of the church, but it is satisfactory to record that a clause was inserted providing for the retention of the beautiful old tower and its upkeep by the Borough Council as a memorial, and for the preservation of a portion of the site and the churchyard as an open space and a public approach thereto.

#### Conditions of Practice in Singapore.

The unsatisfactory conditions of practice in the Straits Settlements have been frequently the subject of complaint by members of the Institute practising in that region, and the Council have learned recently with much satisfaction that the governing authority, convinced by the evidence laid before them, have at last put forward an Ordinance to restrict the practice of architecture to persons of proved competence. It having been brought to the Council's notice that the proposed Ordinance included a provision for the setting-up of an examining body consisting almost entirely of civil engineers, the Council at once addressed a memorandum to the responsible authority at Singapore differentiating between the qualifications required for the two professions, and urging that the architectural interest should be the dominating one and that provision should be made in the new Ordinance for an examining body consisting entirely or mainly of architects.

#### Reconstruction of French Towns.

The Council have appointed a Committee to discuss with representatives of the Institute of Builders and the National Federation of Building Trades' Employers the question of creating a British Section of the Bureau of Building and Public Works which has been set up by the leading French Societies of Architects and Contractors' Associations to consider the difficult and complex problems involved in the rebuilding and reparation of the devastated areas of France; an American Section has already been appointed and the formation of the British Section is suggested by the French Bureau.

#### Conference on Condition of Building Industry.

The Council have considered the resolution passed at the General Meeting of the 10th March and are arranging for a Conference to be held at the Institute with representatives of the several interests affected by the present unsatisfactory condition of the Building Industry. The Conference will take place on Tuesday, 20th May; will last a full day, and will be presided over by the President. A series of short papers to be read in the morning will be followed in the afternoon by a debate as to the action to be taken by the Conference, and a resolution will be moved by the President. The programme will be published as soon as the arrangements are complete.

#### R.I.B.A. Greeting to France.

At the invitation of the Department of Propaganda of the Ministry of Information, a message of greeting to the French nation on the occasion of the 14th July celebrations last year was sent from the Institute for publication in France through the agency of Reuter. The Council wish to record their indebtedness to their colleague, Mr. John W. Simpson, for the striking and exceedingly happy and appropriate salutation he drafted for the occasion (see JOURNAL for July, page 207).

#### Sir Aston Webb's Election as P.R.A.

The recognition of the status of Architecture implied by the election of an architect to the highest Academic honour is an event of the greatest importance to Architecture in this country. The Council felt that they would correctly interpret the wishes of members by offering to Sir Aston Webb an Address expressing the sincere congratulations of the Institute on the high office to which he has attained. The Address expressed the confident

hope that as President of the Royal Academy Sir Aston would bring all the Arts into line and do everything in his power to provide an open field for their fullest and finest expression.

**Mr. Ernest Newton, A.R.A.** The Council feel assured also of the acquiescence of the Institute and of the profession generally in expressing on their behalf to Mr. Ernest Newton their admiration for the skill and ability he brought to the discharge of his difficult duties at the Ministry of Munitions and the Ministry of National Service during the War, and their warmest thanks for the sympathy, tact and courtesy which characterised all his official relations with his brother architects.

**The Institute Staff.** Three members of the Institute staff who have served with the Forces have been demobilised. Members will learn with regret that the Secretary is suffering from overstrain as the result of his war services; on medical advice the Council have granted him three months' leave of absence and have now the satisfaction to report that he is making good progress to complete recovery. The two others have resumed their duties at the Institute.

**Finances.** During the period under review the loss of income through the remission of subscriptions of members serving with the Forces amounted to nearly £1,120. The strictest economy has been maintained in all departments of expenditure, and the Council have again to record a satisfactory drop in the bank overdraft from £1,639 at the end of 1917 to £825 at the end of 1918. The net result for the year 1918 is a balance of £221 income over expenditure. A table is appended showing in round figures the sum of the principal items of income and expenditure in the year before the War, and since:—

	1913.	1914.	1915.	1916.	1917.	1918.
Income . . . . .	£12,869	£14,114	£10,740	£8,294	£7,376	£7,393
Expenditure . . . . .	11,567	11,391	10,020	7,882	7,135	7,172
Surplus . . . . .	1,302	*2,722	719	412	241	221
Bank overdraft . . . . .	£4,846	£2,707	£2,044	£1,900	£1,639	£825
Subscriptions . . . . .	9,097	9,192	8,193	7,047	6,648	6,379
Examination fees . . . . .	1,633	1,169	749	317	306	455
Examination expenses . . . . .	357	353	237	84	64	59
Rent from tenants . . . . .	392	454	85	80	80	117
Grants . . . . .	534	1,148	1,501	474	249	256
Journal . . . . .	2,129	1,804	1,531	1,118	977	1,154
Income from advertisements and sales . . . . .	1,746	1,647	1,179	610	325	341
General printing, &c. . . . .	1,115	944	694	449	304	375
Subscriptions in arrear . . . . .	776	1,063	1,169	1,946	2,870	3,908

\* Increase due to final dividend from Architectural Union Company on liquidation.

## REPORT OF THE BOARD OF ARCHITECTURAL EDUCATION.

The Board have held eight meetings since the issue of the last Report.

**Committees.**—The following Committees have met from time to time and reported on the matters referred to them:—Examinations Committee, Testimonies of Study Committee.

**Problems in Design.**—During the year 63 problems have been received and adjudicated on, and of these 46 have been approved.

The proportion of approved designs compares favourably with previous years.

During the war a comparatively small number of these problems have been received, but there are indications that the pre-war level will soon be reached.

**The Examinations.**—The Board have conducted the Intermediate, Final and Special Examinations as usual, and the results as reported to the Council have been published.

**Special War Examinations and Exemptions.**—The Special War Examination has been held on three occasions at which seven candidates presented themselves, all of whom passed.

A considerable number of Students have availed themselves of the Special War Exemption from the Final Examination, and 111 have been elected Associates.

**Education of the Architect.**—The Board have still under consideration the Resolutions of the Informal Conferences on this subject referred to them by the Council.



*University of Oxford and Committee for the Fine Arts.*—The Board have considered a circular letter issued by the University of Oxford which has recently established a Committee for the Fine Arts. The Committee is vested with certain powers, one of which is to make arrangements for lectures and instruction to be given in the University on the Fine Arts or Subjects pertaining thereto. The Committee has appointed a Sub-Committee to make enquiries and collect information from Institutions directly associated with the professional side of Art. This Sub-Committee asked for the opinion of the Institute on the following points :—

1. An opinion generally on what should be the educational policy of the University towards the Fine Arts.

2. As to how many aspects of Art, both Pictorial and Formative, in their different spheres and conditions could best be studied within the University from the cultural as distinct from the technical side.

3. And an indication of what would be the minimum amount of knowledge of technique, method, and material required to enable those studying the Fine Arts the better to understand the subject.

The Council on the advice of the Board replied to the above as follows :—

1. The policy of the University in regard to the Fine Arts, particularly Architecture, should be educational not instructional in any strictly technical sense.

2. It is considered that Painting, Sculpture, and perhaps especially Architecture, can be advantageously studied at Oxford from the critical and historical point of view, and to this end certain suggestions are made.

3. While undoubtedly in the study of Architecture some knowledge of drawing is of great advantage to the student, it is not suggested that the possession of such knowledge should be a necessary condition of admission to the course which the University is about to establish. Ignorance of " technique," " method and material," should not be any bar to initiation into the study of Architecture.

It is suggested that, without establishing a School of Fine Art, the University might with advantage incorporate as an optional, or better still as an obligatory, subject a course of study in Art as part of the syllabus of the School of Literæ Humaniores, as well as of the History School. The establishment of any school of diploma in the Arts alone is not suggested, but the association of a training in the historical and theoretical aspects of Art, especially of architecture, with the " Schools " above mentioned would be of great value to the Arts themselves and to the candidates who are seeking degrees in these schools. In order to attain this result it is considered of vital importance that a merely archæological treatment should be avoided. The Council do not underrate archæological studies, but they would be out of place here except in so far as they illustrate the technical development of the Arts, and the aims which the Council have in view would be best reached by means of lectures and demonstrations given by trained artists in each Art dealing with the actual problems of these Arts, and giving students some idea of what artists actually set out to do and how they do it. Historical illustration and criticism would be included in such a course, and it is believed that it might be made very valuable from an educational point of view. A craft museum in which something of the theory of construction in various materials might be learnt would be of considerable help both to the lecturers and to those who are studying.

*Board of Education and Professional Bodies.*—The Board have been in communication with the Board of Education on the subject of school certificates, and the Council on the recommendation of the former have agreed to accept the Certificate of the first Examination of the following seven Schools as qualifying for Registration as Probationers of the Institute :—

*As First Examination.*

1. The School Certificate Examination of the Oxford and Cambridge Schools Examination Board.
2. The Senior Local Examination of the Oxford Delegacy for Local Examinations.
3. The Senior Local Examination of the Cambridge Local Examination and Lectures Syndicate.

4. The School Certificate Examination of the University of Bristol.
5. The First School Certificate Examination of the University of Durham.
6. The General School Examination of the University of London.
7. The School Certificate Examination of the Northern Universities Joint Matriculation Board.

The Board have asked for some assurance that the subjects of Mathematics and Mechanics will be included in the syllabus of the above schools.

*University of London.*—The Council on the recommendation of the Board have agreed that the Senior and Junior School Examinations of the University be included in the list of Preliminary Examinations recognised by the Institute.

*Prizes and Studentships.*—On the recommendation of the Board the Competitions for the various Institute Prizes and Studentships will be resumed this year, and it has been decided by the Council that the competitors who were of eligible age in 1915 should still be eligible.

#### REPORT OF THE ART STANDING COMMITTEE.

The Art Standing Committee have held three meetings during the year.

The matter of the projected Bill authorising the removal of St. Olave's Church, Southwark, was further dealt with and the Superintending Architect to the L.C.C. was informed that the Committee were opposed to the suggestion to retain a portion only of the church upon the site.

The control of street architecture was discussed upon the reply of the Council to the report that was sent up, and four members of the Committee were nominated to serve on the Special Committee appointed by the Council to deal with the question.

The matter of the proposed sale of the Swedish Lutheran Church at St. George's-in-the-East was again before the Committee.

At the request of the Council recommendations were made in connection with the proposal to set up a Committee of Fine Arts at Oxford University.

The matter of the Commission appointed by the Bishop of London, with Lord Phillimore as chairman, to consider the rearrangement of Benefices in the City of London, together with the possible destruction of churches, was dealt with by the Committee and the Council were requested to write strongly to Lord Phillimore on the subject.

#### REPORT OF THE LITERATURE STANDING COMMITTEE.

Since the issue of its last Report the Literature Standing Committee have held five meetings.

The following officers were elected to serve during the Session :—Mr. H. H. Statham, Chairman ; Mr. Arthur T. Bolton, Vice-Chairman ; Mr. H. H. Wigglesworth and Mr. Herbert G. Ibberson, Hon. Secretaries.

The Committee have to record with regret the death of Mr. William J. Davies, who had been a member since 1914, and had always shown great interest in the Committee's work.

During the past Session the Committee have had before them various questions relating to the future development of the Library, and a Sub-Committee was appointed to consider these matters in detail. As their work is still in progress, no general report can yet be brought forward.

The Committee have made a recommendation to the Council that the Library grant should be raised to the sum of £250, it being felt that with the general increase in the cost of books and in the charges for binding the pre-war allowance will be inadequate in the future. Previous to the war the annual grant was £200, but as a measure of economy during the war period the expenditure on books and binding has been reduced to a yearly average of £78.

The following is the Librarian's Report to the Committee :—

During the twelve months ending 31st March of the present year 104 volumes and 21 pamphlets have been added to the Library, exclusive of periodicals, reports and transactions of Societies, and parts of works issued in serial form.

The number of works presented was 27 volumes and 18 pamphlets.

Works purchased numbered 77 volumes and 3 pamphlets, of which 36 volumes were added to the Loan Library.

The attendance of readers in the Reference Library numbered 2,597. Although during the war the attendance has necessarily fallen off, a great increase is noticeable since demobilization has been in progress. The number of books issued on loan was 1,039.

The number of tickets issued for admission to the Library, other than to members of the Institute or to Students and Probationers, was 36.

The books issued through the post numbered 117.

During the past year, and more particularly since the signing of the armistice, architects and architectural students serving with the Colonial armies have been frequent visitors, and have much appreciated the facilities for study offered them in the Library.

Donations of books and pamphlets have been received from Sir Aston Webb, Mr. Arthur T. Bolton, Mr. A. W. S. Cross, Mr. S. Carey Curtis, Mr. Barr Ferree, Mr. Edwin T. Hall, Mr. W. Haywood, Mr. C. F. Innocent, Mr. Benj. Ingelow, Mr. H. V. Lanchester, Mr. J. H. W. Leliman, Mr. Frank Lishman, Mr. Arnold Mitchell, Mr. Charles C. Reade, Signor Giulio Tian, Professor Patrick Geddes, Mr. A. O. Collard, Mr. John Slater, Capt. H. F. N. Powell, Concrete Publications, Ltd., Messrs. Hodge & Co., Messrs. Putnam's Sons, the Australian Town Planning Conference, Messrs. E. and F. N. Spon.

Among the books purchased or presented during the year may be mentioned:—Gotch's *The English Home*, Mâle's *L'Art Allemand et l'art Française du Moyen âge*, Koester's *Modern City Planning and Maintenance*, Bird's *Town Planning for Small Communities*, Hamlin's *Enjoyment of Architecture*, Tilley's *Dawn of the French Renaissance*, Geddes's *Town Planning towards City Development (Indore)*, Jackson's *A Holiday in Umbria*, Mayor and Rambert's *Architecture et Sculpture Funéraires*, Pupin and Jackson's *South Slav Monuments*, Chamouin's *Vues de Paris*, Yerbury's *Figure Drawing*, Stein's *Le Palais de Justice de Paris*, MS. of Gwilt's *Encyclopædia of Architecture*, Whitaker and others, *The Housing Problem in War and in Peace*, Hunter's *Decorative Textiles*, École Nationale des Beaux-Arts, *Médailles des Concours d'Architecture (1908-1913)*, Lineham's *Mechanical Engineering*, Zimmer's *Mechanical Handling of Material*, Savage's *Rural Housing*, Snow's *Wood and Other Organic Structural Materials*, Marliani's *Urbis Romæ Topographia*, etc., Fustel de Coulanges *La Cité Antique*, Swarbrick's *Sketches in Scotland*, Record's *Mechanical Properties of Wood*, Hutton's *Welfare and Housing*.

#### REPORT OF THE PRACTICE STANDING COMMITTEE.

THE officers of this Committee are:—Chairman, Mr. W. H. Atkin-Berry; Vice-Chairman, Mr. W. Gillbee Scott; Hon. Secretaries, Mr. Percival M. Fraser and Mr. A. Saxon Snell.

##### SUB-COMMITTEES.

*Expert Advice and Architects' Charges in Relation thereto.*—The Committee's Report on this matter which was submitted to the Council last session was referred back for the Committee to consider the views of the Allied Societies which had been invited by the Council thereon. The Committee duly analysed the Allied Societies' views and have reported again to the Council.

*Instructions to Arbitrators.*—This Sub-Committee, which was appointed to consider the advisability of preparing a pamphlet on instructions to arbitrators for the guidance of the profession, have held many meetings, and the matter is still under consideration.

*Scale of Charges.*—This Sub-Committee being empowered by the Council to deal with matters affecting the whole sense and form of the Scale of Charges, it was decided to ask the Council to re-appoint this as a Special Committee to report direct to the Council, which was duly carried into effect.

*Law on Easements of Support.*—A Sub-Committee has been appointed to report to the Council on the feasibility of dealing with the Law of Easements of Support on the lines of the proposed amendment of the Law on Light and Air. This Committee is still sitting and will report in due course.

*Professional Practice.*—The Committee have been authorised by the Council to report upon the advisability of increased study in the matter of professional practice being called for in the Institute examinations. A Sub-Committee has been appointed and is still sitting.

*Members' Queries.*—A considerable number of enquiries have been received on the question of fees,

the facts of which the Committee communicated to the Schedule of Charges Committee, and where questions of principle are involved the applicant is advised.

It is a matter of gratification to the Committee that they have been of assistance to members in many cases in obtaining adequate fees, particularly in one case of important public buildings in India.

They have also dealt with applications from building owners on the question of the amount of fees due in given cases, and their advice has been followed, to the benefit of the architect.

The Committee would again draw attention of members who submit queries to the fundamental points to be observed as set forth in the Annual Report for 1917-1918.

*Professional Etiquette.*—The Committee have considered cases of contravention of by-laws and resolutions of Council dealing with professional advertising and other alleged breaches of etiquette, and have reported to the Council thereon.

Questions have been received from the general public on matters of professional conduct. In such matters the Committee have not issued their recommendations without receiving statements of the case from all parties involved.

*Questions arising out of War Conditions.*—Many cases of passing interest arising out of the abnormal conditions created by the war were dealt with by the Committee. These were fully investigated, and where necessary the Committee have consulted Government Departments, and suitable replies were made to the applicants.

*Letters to the Press.*—The Committee dealt with correspondence appearing in *The Builder* containing reflections on the action of the Institute in appointing arbitrators. They reported to the Council thereon and replied in the Press that the authors had failed to substantiate their allegations.

*Ownership of Plans.*—Many important questions dealing with ownership of the architect's plans, his copyright therein, and the impropriety of the building owner using them for further buildings without payment have been considered, and the recommendations of the Practice Committee have been duly communicated to the applicants or reported to the Council. The Committee have taken steps that the Schedule of Charges Committee were informed so that all such matters should as far as possible be dealt with in the new Scale of Charges.

*Supplies of Timber after the War.*—This matter, which was dealt with in the 1917-1918 Report, eventuated in an exhibition of timber in the Institute rooms, and commissioners from British Columbia and the United States of America and the English Forestry Association have lectured on the subject of supplies to members of the Institute and the building trades.

*Government Departments.*—The Committee have on request furnished Government Departments with information on professional questions from time to time.

*Professional Conduct.*—Questions on professional advertising—with particular reference to the exhibition of names on buildings in course of construction—and the propriety of an architect carrying on estate agency business (matters covered by the "Resolutions of the Council" on professional conduct) have been exhaustively considered and reports made to the Council.

*Architects on Service.*—The Committee fully considered and reported to the Council upon the question of the status of members of the Institute serving with the Forces.

*Conditions of Contract.*—Questions on the R.I.B.A. Conditions of Contract which have arisen were referred to the Conditions of Contract Committee with this Committee's recommendation.

*Architects and Gratuitous Services.*—The Committee have dealt with the matter of architects offering their services gratuitously for work of a public nature, and desire to draw attention of members to the view recently expressed by the Council in the JOURNAL.

*Personal Matters.*—Certain matters have been considered, the personal nature of which renders definite reference undesirable.

*The late Mr. Matt. Garbutt.*—The Committee have to report with great regret the death of Mr. Matt. Garbutt, for many years Hon. Secretary, and wish to record their unbounded appreciation of



his valuable services to this Committee, and their sense of the great loss sustained by the Institute upon his death.

### REPORT OF THE SCIENCE STANDING COMMITTEE.

Since the date of the previous Report six meetings have been held, with an average attendance of eight members.

As there were no elections in 1918, Mr. W. E. Vernon Crompton remained Chairman, and Mr. Horace Cheston Vice-Chairman of the Committee, and Messrs. Allan O. Collard and Digby L. Solomon continued as joint Honorary Secretaries.

In 1915 the Institute, the District Surveyors' Association, and the Concrete Institute, each appointed three members to form a Conference to formulate proposals to facilitate the carrying out of the L.C.C. (General Powers) Act, 1909, and to establish uniformity of practice. The members of the Conference having completed their work, have sent their Report to this Committee, by whom it has been passed on to the Council for consideration, with a view to eventual publication.

The Committee wishing to ascertain what progress was being made with the open-air tests of the stone specimens deposited at the Royal Geological Museum, approached the Curator again on the subject, and were informed that on the return of the official photographer from his war duties, the next stage of the testing would take place and the Committee be informed accordingly.

Under the direction of the Committee, a few samples of tiles have been microscopically examined. But it has been decided that no satisfactory conclusions can be reached till certain tile works have been visited for the examination of the actual methods of manufacture. The necessary visits of inspection have been postponed on account of the war, but they will be arranged when the normal manufacture of tiles is resumed.

Two pieces of teak tongued flooring, showing signs of decay; were submitted to the Committee for an opinion as to the cause, with a request for information bearing on the subject. Subsequently, it transpired that the damage was believed to be caused by a white worm-like insect, a quarter of an inch long, probably hatched out from the wood with the assistance of warm water from the adjacent baths. The Committee feel that the fact of there being no public research department, with laboratories properly equipped, to which such questions as these could be referred for thorough examination and report, is a serious detriment to the profession.

The Committee having been asked, on account of the restrictions by the Government, if there were any intention to issue a report on the materials suitable for external painting, in substitution for lead and oil colours, decided that no substitutes could be recommended, as supplies of other materials were constantly changing and becoming unobtainable from time to time.

The Librarian presented various new books on scientific subjects for the Committee's consideration, and some were recommended for use in the Library.

The Committee deeply regret the recent death of their Vice-Chairman, Mr. Horace Cheston, whose valuable services and genial presence will be greatly missed.

### REPORT OF THE CIVIC SURVEY.

The Civic Survey continues its work in Greater London, South Lancashire, South Yorkshire, and Devon and Exeter areas, collecting statistics and producing diagrams and maps which will be of the greatest value in the preparation of Town Planning and other schemes of civic improvement.

In addition to its ordinary work the Civic Survey of Greater London has also at the request of the Air Board made tracings of aeroplane designs.

During the past year diagrams were exhibited at a Town Planning Conference at Birmingham; and also at an Exhibition at Leeds, opened by the Lord Mayor, at which the Hon. Director of the

Greater London Survey represented the Institute, and had an opportunity of explaining the nature of the work.

Apart from the value of the Survey as a measure of War relief, the usefulness of its technical results is gradually becoming more widely recognised. Various Government Departments and Public Authorities and Societies have availed themselves of its information and visits are paid to the exhibitions here from time to time by those specially interested and best qualified to judge.

The Survey has also been honoured by the presence of H.M. the Queen and H.R.H. Princess Mary, who were greatly interested in all that was shown to them.

#### REPORT OF THE ARCHITECTS' WAR COMMITTEE.

The War Committee was occupied chiefly during the early part of the year with finding suitable employment in the Services for architects affected by the raising of the age for military service. It is impossible to give figures because in most cases the final result of the Committee's efforts is not known, but a great number of men were nominated or recommended for technical Units as the result of arrangements made with the National Service authorities.

When the Armistice was concluded, the Ministry of Labour approached the R.I.B.A. in order to obtain from the Institute lists of Pivotal men for early demobilisation. This work was deputed to the Demobilisation Sub-Committee. The various districts of England and Wales were dealt with on a proportional basis according to the membership of the Institute and the Allied Societies, and about 750 names of men were submitted, as far as can be ascertained, and nearly all of them have been demobilised.

A great deal of work has been done by the War Committee in connection with resettlement and employment both before and since the Armistice.

#### REPORT OF THE HON. AUDITORS FOR 1918.

We have carefully examined the books and checked the various items therein with the accounts and vouchers for the year 1918. We have also examined the various share certificates held by the Institute and the list of share certificates deposited at the bank, all of which were found to be in order and to agree with the balance sheet prepared by the accountants.

It is again satisfactory to note a further decrease in the bank overdraft, which has been reduced from £1,639 15s. 3d. in 1917 to £925 1s. 10d., showing a reduction of no less than £814 13s. 5d. Although no surplus was allowed for in the Council's rough estimate of Income and Expenditure, an actual surplus of £221 15s. has been realised. This result is partly due to saving on the following items :— Lighting, Fuel, Housekeeping, etc., and we think the Institute is to be congratulated on the satisfactory state of affairs in view of war conditions. The Trust Funds have been augmented by the investment of accumulated income to the amount of £330 15s.

We should like to repeat that the work has been excellently carried out in the best interests of the Institute and we again congratulate the staff on the way they have performed their duties.

HENRY A. SAUL [F.] } Hon.  
H. S. EAST [A.] } Auditors.

#### FINANCES.

The accounts of Ordinary and Trust Funds for 1918, prepared by Messrs. Saffery, Sons & Co., Chartered Accountants, and audited by Messrs. Henry A. Saul [F.] and H. S. East [A.], Hon. Auditors, here follow :—

## Income and Expenditure Account of Ordinary Funds for the Year ended 31st December, 1918.

Dr.	Exclusive of Entrance Fees and Subscriptions in advance.						INCOME.						Cr.	
EXPENDITURE.														
TO ORDINARY EXPENDITURE—							By ORDINARY INCOME—							
							Subscriptions.							
	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.	
Rent .....	69	5	0				646 Fellows at £4 4s. ....	2713	4	0				
Rates and Taxes .....	867	18	1				Ditto Arrears .....	216	6	0				
Interest on Mortgage .....	160	0	0				Ditto on Account .....	6	6	0				
				1097	3	1	857 Associates at £2 2s. ....	1799	14	0				
Gas and Electric Lighting .....				76	18	3	Ditto Arrears .....	235	4	0				
Fuel .....				46	3	8	Ditto on Account .....	0	10	6				
Salaries .....				2736	2	8	31 Hon. Associates at £2 2s. ....	65	2	0				
General Printing, Stationery, Stamps, and							1109 Licentiatees at £1 1s. ....	1164	9	0				
Petty Expenses .....				375	6	1	Ditto Arrears .....	141	16	0				
General Meetings and Exhibitions .....				17	5	11	Ditto on Account .....	1	0	0				
Housekeeping and Wages .....				278	19	8	Reinstated Members .....	35	14	0	6379	5	6	
Advertisements .....				6	18	6								
Examination Expenses .....				59	10	5	JOURNAL and KALENDAR—							
General Repairs .....				33	13	8	Advertisements .....	212	10	7				
Fire and Aircraft Insurance .....				71	3	2	Sales of Journal and other Publications ..	62	10	3				
Grant to Architects' Benevolent Society ..	100	0	0				Subscriptions from Army Members .....	66	16	6	311	17	6	
Grant to Architectural Association .....	100	0	0											
Grant to London Society .....	26	5	0				Examination Fees—							
Grant to Architects' Demobilization Com-							Statutory .....	2	2	0				
mittee .....	25	0	0				Preliminary .....	52	10	0				
Grant to Science Committee .....	5	0	0				Intermediate .....	85	1	0				
				256	5	0	Special Final and War Exemption .....	278	5	0				
Library .....				44	18	4	Licentiatees .....	37	16	0	455	14	0	
JOURNAL—														
Reporting .....				24	19	4	Use of Rooms—							
Printing and Binding .....				861	2	4	R.I.B.A. Tenants and others .....				85	5	0	
Illustrations .....				27	16	2	Galleries .....				32	7	1	
Postage and Carriage .....				240	9	3	Grissell Legacy—							
							Interest on War Loan .....				18	16	6	
Contributions to Allied Societies† .....				1154	7	1	Grant from Jarvis Trustees for Architectural				90	0	0	
War Committee and Civic Survey .....				301	16	6	Education .....							
				114	6	3								
MISCELLANEOUS EXPENSES—														
Legal and Accountants .....				36	2	6								
Presidents of Allied Societies .....				12	17	10								
Telephone .....				39	11	4								
War bonus to Staff .....				219	11	0								
War Memorial Service .....				22	7	4								
Future of Architecture Committee .....				20	13	6								
Sundries .....				38	0	2								
Reserve for fine payable at renewal of				389	3	8								
Lease .....				7	0	0								
Interest on Overdraft .....				24	9	1								
A.A. Henry Jarvis Studentship:—Paid														
Students .....				80	0	0								
Balance of Income over Expenditure for														
year carried to and included in Balance														
Sheet Surplus .....				221	15	0								
				£7393	5	7					£7393	5	7	

† By-law 82 provides that "The Royal Institute shall, in each year, contribute to any Non-Metropolitan Allied Society not more than one-fourth of the annual subscription paid to the Royal Institute by each member thereof who is also a member of such Society, in respect of and for his subscription thereto; but in no event shall such contribution apply in the case of any one member to more than one Allied Society."

SAFFERY, SONS & Co.,

Chartered Accountants.

Examined with the vouchers and found to be correct. 9th April 1919. { HENRY A. SAUL [F.] } Hon. Auditors.  
{ H. S. EAST [A.] }

Dr.	LIABILITIES.		ASSETS.		Cr.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
To Sundry Creditors—			By Premises .....		
Sundry .....	719 3 5		(Subject to a Mortgage of £4000 at 4 per		
Mortgage Interest .....	40 0 0		cent.)		
Rent .....	17 15 0	776 18 5	Investment (Grissell Legacy) £526 8s. 1d.		
		77 0 0	5 per Cent. War Loan .....	500 0 0	
Reserve for fine payable on renewal of Lease		321 6 0	Deductions, Rent, Advertisements, &c. ....	412 10 0	
Examination Fees anticipatory of election		144 2 6	Due from Trust Funds .....	1 6 6	413 16 6
Subscriptions received in advance .....		825 1 10			
Bank Overdraft .....		500 0 0	Subscriptions in Arrear for 1918 and pre-		
Lieutenant Francis Grissell Legacy Fund			viously .....	3908 10 2	
Surplus of Assets over Liabilities (subject					
to Valuation of Premises and realisation		37800 14 1			
of Debtors and Subscriptions in Arrear)					
		£40445 2 10			£40445 2 10

## NOTE:—

A Fine of £7 per annum is payable every 14 years in respect of the premises under a Lease from the Corporation of the City of London. Notice of renewal must be given at Michaelmas, 1921, and the fine of £98 paid.

SAFFERY, SONS & Co.,

Chartered Accountants.

Examined with the vouchers and found to be correct. 30th April 1919. { HENRY A. SAUL [F.] } Hon. Auditors.  
{ H. S. EAST [A.] }

## Revenue Accounts of Trust Funds for the Year ended 31st December, 1918.

Dr.	£ s. d.		Cr.	£ s. d.
<b>ASHPITEL PRIZE FUND :—</b>				
To purchase of £10 5 per Cent. National War Bonds....	10 0 0	By Balance from last Account .....	2 12 5	
To Balance carried forward .....	4 15 7	By Dividends and Interest received .....	12 3 2	
	<u>14 15 7</u>		<u>14 15 7</u>	
<b>ANDERSON AND WEBB FUND :—</b>				
To purchase of £25 4 per Cent. National War Bonds 1927	25 0 0	By Balance from last Account .....	3 11 2	
To Balance carried forward .....	1 13 10	By Dividends and Interest received .....	23 2 8	
	<u>26 13 10</u>		<u>26 13 10</u>	
<b>ARTHUR CATES LEGACY :—</b>				
To purchase of £30 5 per Cent. National War Bonds 1927	30 0 0	By Balance from last Account .....	4 10 10	
To purchase of £10 5 per Cent. National War Bonds 1928	10 0 0	By Dividends and Interest received .....	41 5 6	
To Balance carried forward .....	5 16 4		<u>45 16 4</u>	
	<u>45 16 4</u>			
<b>DONALDSON TESTIMONIAL FUND :—</b>				
To Balance carried forward .....	6 15 10	By Balance from last Account .....	5 15 4	
	<u>6 15 10</u>	By Dividends and Interest received .....	1 0 6	
			<u>6 15 10</u>	
<b>DONATION FUND :—</b>				
To Balance carried forward .....	9 9 11	By Balance from last Account .....	5 13 0	
	<u>9 9 11</u>	By Interest received .....	3 16 2	
			<u>9 9 11</u>	
<b>GODWIN BURSARY :—</b>				
To purchase of £30 5 per Cent. National War Bonds 1928	30 0 0	By Balance from last Account .....	1 17 3	
To Balance carried forward .....	4 9 1	By Dividends and Interest received .....	32 11 10	
	<u>34 9 1</u>		<u>34 9 1</u>	
<b>GRISSELL LEGACY :—</b>				
To purchase of £20 5 per Cent. National War Bonds 1928	20 0 0	By Balance from last Account .....	9 6 11	
To Balance carried forward .....	1 14 11	By Dividends and Interest received .....	12 8 0	
	<u>21 14 11</u>		<u>21 14 11</u>	
<b>OWEN JONES STUDENTSHIP :—</b>				
To purchase of £25 4 per Cent. National War Bonds 1927	25 0 0	By Balance from last Account .....	3 3 10	
To purchase of £30 5 per Cent. National War Bonds 1927	30 0 0	By Dividends and Interest received .....	104 2 11	
To purchase of £50 4 per Cent. National War Bonds 1928	50 15 0			
To Balance carried forward .....	1 11 9		<u>107 6 9</u>	
	<u>107 6 9</u>			
<b>PUGIN MEMORIAL FUND :—</b>				
To purchase of £20 5 per Cent. National War Bonds 1927	20 0 0	By Balance from last Account .....	2 1 3	
To purchase of £10 5 per Cent. National War Bonds 1928	10 0 0	By Dividends and Interest received .....	36 2 3	
To Balance carried forward .....	8 3 6		<u>38 3 6</u>	
	<u>38 3 6</u>			
<b>SAXON SNELL BEQUEST :—</b>				
To purchase of £10 5 per Cent. National War Bonds 1927	10 0 0	By Balance from last Account .....	7 4 0	
To purchase of £10 5 per Cent. National War Bonds 1928	10 0 0	By Dividends and Interest received .....	25 12 10	
To Balance carried forward .....	12 16 10		<u>32 16 10</u>	
	<u>32 16 10</u>			
<b>TITE LEGACY FUND :—</b>				
To purchase of £10 5 per Cent. National War Bonds 1927	10 0 0	By Balance from last Account .....	2 11 11	
To purchase of £10 5 per Cent. National War Bonds 1928	10 0 0	By Dividends and Interest received .....	24 3 7	
To Balance carried forward .....	6 15 6		<u>26 15 6</u>	
	<u>26 15 6</u>			
<b>WIMPERIS BEQUEST :—</b>				
To purchase of £30 5 per Cent. National War Bonds 1928	30 0 0	By Balance from last Account .....	6 18 10	
To Balance carried forward .....	8 5 10	By Dividends and Interest received .....	31 7 0	
	<u>38 5 10</u>		<u>38 5 10</u>	
<b>SAFFERY, SONS &amp; Co.,</b>				
Chartered Accountants.				

Examined with the vouchers and found to be correct. 26 April 1919. { HENRY A. SAUL [F.] } Hon. Auditors.  
{ H. S. EAST [A.] }



## Balance Sheet of Trust Funds, 31st December, 1918.

Dr.	£	s.	d.	£	s.	d.	Ct.	£	s.	d.	£	s.	d.
<b>TO ASHPITEL PRIZE FUND:—</b>													
Capital—£305 1s. 8d. New South Wales													
4 per Cent. Debentures (1922): Value													
at 31st December, 1918	280	16	7										
£76 8s. 11d. 4½ per Cent. War Loan	76	1	3										
£20 5 per Cent. War Loan	18	18	0										
£10 5 per Cent. National War Bonds	10	0	0										
Balance at credit of Revenue Account	4	15	7	399	11	5							
<b>TO ANDERSON AND WEBB FUND (Board of Architectural Education):—</b>													
Capital—£594 18s. 4d. New South Wales													
4 per Cent. Debentures (1922): Value													
at 31st December, 1918	585	3	5										
£58 6s. New South Wales 4 per Cent.													
Inscribed Stock (1942)	47	16	1										
£56 6s. 4d. 4½ per Cent. War Loan	56	0	9										
£25 5 per Cent. War Loan	23	12	6										
£10 5 per Cent. National War Bonds	10	0	0										
£25 4 per Cent. National War Bonds	25	0	0										
Balance at credit of Revenue Account	1	13	10	729	6	7							
<b>TO ARTHUR GATES LEGACY FUND:—</b>													
Capital—£1160 N.-E. Railway 4 per Cent.													
Preference Stock: Value at 31st Decem-													
ber, 1918	858	8	0										
£137 18s. 7d. 4½ per Cent. War Loan	137	4	9										
£45 5 per Cent. War Loan	42	10	6										
£80 5 per Cent. National War Bonds	80	0	0										
Balance at credit of Revenue Account	5	16	4	1103	19	7							
<b>TO DONALDSON TESTAMENTARY FUND:—</b>													
Capital—£72 L. & N.-W. Railway 4 per													
Cent. Consolidated Preference Stock:													
Value at 31st December, 1918	54	14	5										
£12 4s. 7d. 4½ per Cent. War Loan	12	3	4										
Balance at credit of Revenue Account	6	15	10	73	13	7							
<b>TO DONATION FUND:—</b>													
£70 8s. 11d. 4½ per Cent. War Loan	70	1	3										
£40 5 per Cent. War Loan	37	16	0										
400 War Savings Certificates	310	0	0										
Balance at credit of Revenue Account	9	9	11	433	7	2							
<b>TO GODWIN BURSARY FUND:—</b>													
Capital—£1030 Caledonian Railway 4 per													
Cent. Debenture Stock: Value at 31st													
December, 1918	824	0	0										
£44 6s. 4½ per Cent. War Loan	44	1	7										
£25 5 per Cent. War Loan	23	12	6										
50 War Savings Certificates	38	15	0										
£40 5 per Cent. National War Bonds	40	0	0										
Balance at credit of Revenue Account	4	9	1	974	18	2							
<b>TO GREENELL LEGACY FUND:—</b>													
Capital—£20 0s. 8d. "B" Annuity Great													
Indian Peninsula Railway: Value at													
31st December, 1918	315	10	8										
£20 7s. 8d. 4½ per Cent. War Loan	20	5	7										
£20 5 per Cent. War Loan	18	18	0										
£20 5 per Cent. National War Bonds	20	0	0										
Balance at credit of Revenue Account	1	14	11	376	9	2							
<b>TO OWEN JOYNS STUDENTSHIP FUND:—</b>													
Capital—£2123 Midland Railway 2½ per													
Cent. Debenture Stock: Value at 31st													
December, 1918	1127	16	10										
£1247 G.W. Railway 5 per Cent. Consoli-													
dated Guaranteed Stock	1172	3	8										
£393 15s. 8d. 4½ per Cent. War Loan	396	16	9										
£107 9s. 8d. 5 per Cent. War Loan	101	11	3										
50 War Savings Certificates	38	15	0										
£40 5 per Cent. National War Bonds	40	0	0										
£75 4 per Cent. National War Bonds	75	15	0										
Balance at credit of Revenue Account	1	11	9	2054	10	3							
<b>TO PUGH MEMORIAL FUND:—</b>													
Capital—£1070 L. & N.-W. Railway 4 per													
Cent. Consolidated Preference Stock:													
Value at 31st December, 1918	813	4	0										
£15 8s. 9d. 4½ per Cent. War Loan	15	8	2										
£47 16s. 5 per Cent. War Loan	45	3	5										
£40 5 per Cent. National War Bonds	40	0	0										
Balance at credit of Revenue Account	8	3	6	921	19	1							
<b>TO SAXON SYBELL BEQUEST:—</b>													
Capital—£2098 4s. New Zealand 2½ per Cent.													
Stock: Value at 31st December, 1918	537	12	3										
£204 10s. 4d. 4½ per Cent. War Loan	203	9	11										
£20 5 per Cent. War Loan	18	18	0										
£40 5 per Cent. National War Bonds	40	0	0										
Balance at credit of Revenue Account	12	16	10	812	17	0							
<b>TO TITE LEGACY FUND:—</b>													
Capital—£1150 2½ per Cent. Consols:													
Value at 31st December, 1918	678	10	0										
£51 12s. 6d. 4½ per Cent. War Loan	51	7	4										
£35 5 per Cent. War Loan	33	1	6										
£90 5 per Cent. National War Bonds	30	0	0										
Balance at credit of Revenue Account	6	15	6	790	14	4							
<b>TO WIMPERS BEQUEST:—</b>													
Capital—£1024 18s. 8d. Metropolitan Water													
Board 3 per Cent. "B" Stock: Value													
at 31st December, 1918	661	1	8										
£202 8s. 5d. 4½ per Cent. War Loan	201	3	2										
£35 5 per Cent. War Loan	33	1	6										
£40 5 per Cent. National War Bonds	40	0	0										
Balance at credit of Revenue Account	8	5	10	943	12	2							
<b>TO HENRY JARVIS SCHOLARSHIP:—</b>													
Balance in hand				75	0	0							
				£10598	18	6							
											£10598	18	6

SAFFERY, SOXS & Co.,  
Chartered Accountants.

Examined with the vouchers and found to be correct. 9th April 1919. { HENRY A. SAUL [F.] } Hon. Auditors.  
{ H. S. EAST [A.] }

The Council submit a rough Estimate of Income and Expenditure of Ordinary Funds for the year ending 31st December 1919, exclusive of Entrance Fees:—

ORDINARY EXPENDITURE.			ORDINARY INCOME.		
	£	s. d.		£	s. d.
Rent, Rates and Taxes, &c.	1100	0 0	Subscriptions and Arrears	6988	0 0
Gas and Electric Lighting	85	0 0	Sale of Publications	100	0 0
Fuel	75	0 0	Advertisements	300	0 0
Salaries	3283	0 0	Examination Fees	500	0 0
General Printing, Stationery, Stamps and Petty Expenses	400	0 0	Use of Rooms	85	0 0
General Meetings and Exhibitions	35	0 0	Dividend on Grissell Legacy	20	0 0
Housekeeping and Wages	300	0 0	Galleries	435	0 0
Advertisements	30	0 0			
Examination Expenses	75	0 0			
General Repairs	100	0 0			
Fire Insurance	65	0 0			
Grants	300	0 0			
Library	100	0 0			
The JOURNAL	1350	0 0			
The KALENDAR	400	0 0			
Contributions to Allied Societies	400	0 0			
Presidents of Allied Societies	15	0 0			
Legal	30	0 0			
Accountants	30	0 0			
Miscellaneous	140	0 0			
Interest on Overdraft	20	0 0			
Special Item—					
War Committee and Civic Survey	100	0 0			
	<b>£8433</b>	<b>0 0</b>		<b>£8433</b>	<b>0 0</b>

## CHRONICLE.

### Conference at the Institute on the Condition of the Building Industry.

As announced in the Annual Report, the Council have considered the resolution passed at the General Meeting of the 10th March and are arranging for a Conference to be held at the Institute with representatives of the several interests affected by the present unsatisfactory condition of the Building Industry. The Conference will take place on Tuesday, 20th May, and will last the entire day. The President of the Institute, Mr. Henry T. Hare, will preside. Arrangements are being made for the reading of a series of short papers by representatives of the R.I.B.A., the Society of Architects, the Surveyors' Institution, and Societies of Employers and Workmen connected with building operations. The following subjects have been suggested for discussion:

1. Causes of the present abnormal cost of building and inactivity in the trade.
2. The present and future effects of Government Housing Schemes on prices and employment.
3. The competitive contract system—should it be retained, abolished, or modified?
4. Processes and organization for reducing time and cost of construction.
5. The mutual relations of the architect, builder and workman.

The President will take the Chair at 10.45 a.m., and the morning (until 1.15 p.m.) will be occupied by the reading of papers (not exceeding, at most, 15 minutes each in delivery). In the afternoon at 2.30 the President will deliver a short review of the papers read and open a discussion as to the action to be taken by the Conference, and suggest to the meeting the terms of a Resolution. Speakers will be limited

to 10 minutes, unless the meeting (by show of hands) desires them to continue to address it. For the convenient reference of members of the Conference copies of the papers read will be distributed during the morning meeting.

The Council trust that there will be a good attendance of members at the Conference.

### The Manchester Society of Architects and Housing Development.

The Manchester City Council have now under consideration various schemes for housing development, the Housing Committee being anxious to take advantage of the favourable conditions at present offered to municipal authorities by the Treasury. The immediate intention is to provide between seven and eight thousand houses on five different estates, to be dealt with as one housing scheme. An important change in the method of procedure has been made by the Manchester Council, it being announced that in order to expedite the work and to carry it out as efficiently as possible, the municipal Housing Committee have arranged to co-operate with the Manchester Society of Architects. Particulars are given in the *Manchester Guardian* as follows:—

Six architects have been nominated, to form, with the President of the Society and the City Architect, a "President's Committee," which will be directly responsible to the Corporation. This Committee has been asked to send in a list of local architects to prepare plans for the "lay-out" of the estates, with the necessary drawings and specifications for the houses. These architects will serve as "sectional architects," each section having a chairman who will be a member of the President's Committee and responsible to that Committee for his section. The fees and charges will be on the basis of those published by the R.I.B.A. It

is also announced that in the selection of architects, should their qualifications warrant it, special consideration will be given to members who have served in the war, and places will be reserved for men who have not yet been demobilised.

#### Effect of the Finance Act, 1910.

Mr. A. A. Hudson, K.C. [*Hon. A.*], in a letter to *The Times* urging the repeal of the Finance Act of 1910, gives the following reasons why the Act prevents the development of towns:

1. Towns are mostly developed by builders who make a business of purchasing land for the purpose of building houses and selling them, when built, to their customers.

2. Land to such builders is as much a part of their capital as bricks and mortar, and if the Government took an increment duty of one-fifth of the profit a builder might make on a transfer or sale of the land, either when he had built houses upon it or not, the builder would be deprived of one-fifth of the profits of that part of his business.

3. In cases where the land had not increased in value more than the compound interest on the purchase money which the builder had paid for the land, the builder would be an actual loser of a part of his capital.

4. No business could continue to exist where a sleeping partner (the Government) put no capital into the business, but drew out one-fifth of the profits, or the capital, as the case might be.

"The result," says Mr. Hudson, "was, as the Government were warned it would be, that builders gave up buying land for building purposes and the development of towns practically ceased. The land then held by builders was reduced in value, bankers called upon builders to reduce their overdrafts upon the deposit of deeds, and other mortgagees called in their money. Four years elapsed after the passing of the Act, during which very few buildings were erected and many brickyards were closed. Then came the war, which brought with it, after a time, a complete cessation of building, and now, after eight or nine years, legislation is necessary in the shape of all sorts of housing schemes to supply the want of houses caused chiefly by the misguided legislation of nine years ago."

#### The Development Plan of Greater London.

The original plan prepared by the London Society to illustrate in complete form the official and other proposals for the future improvement and development of Greater London, is now on exhibition at King's College, and will remain on view after Easter, from the 23rd until 29th April, inclusive. On the completion of the plan last year Sir Aston Webb gave a very interesting account of its preparation and of the scope and purpose of the work in a paper read before the Royal Geographical Society. It was then mentioned that a reproduction of the map was being prepared by Messrs. Stanford. This has now been completed and a copy of the plan in its published form is also on view.

#### Victoria and Albert Museum: Old English Furniture.

A number of pieces of English furniture of the late 17th century from Boughton House, Northamptonshire, recently presented to the Victoria and Albert Museum by the Duke of Buccleuch, K.T., have been placed on exhibition in Room 54 of the Woodwork Galleries. They consist of a chest of drawers of figured walnut, a table with

spiral legs, an elaborately carved and gilt armchair, a mirror with glass ornaments and other specimens of furniture characteristic of the period. Boughton House, as it now stands, was rebuilt by Ralph, Duke of Montagu, late in the 17th century, and these pieces of furniture, as well as the splendid bedstead presented by the Duke of Buccleuch three years ago, possess an historic as well as artistic interest and are invaluable for students.

#### THE LATE ROWLAND PLUMBE.

Rowland Plumbe, whose long and very active career was brought to a conclusion on the 2nd April by heart failure, was in the 81st year of his age and one of the oldest members of the Institute. Having joined as Associate in 1862, he became Fellow in 1869 and served on the Council in 1876. In 1862, also, he joined the Architectural Association and filled the offices of Secretary, Vice-President and President, being before his death the oldest member. He served also as one of the Secretaries of the Architectural Exhibition until the establishment of a gallery for architectural drawings at the Royal Academy. He was District Surveyor from 1875 to 1891, first in South Islington and later in West-Hampstead.

Mr. Plumbe served his articles with Mr. N. J. Cottingham and Messrs. Cooper and Peck, and from 1858 spent two years in America assisting in the preparation of a work on Church Architecture. After this excursion he returned to London and entered into practice in the City, some extensive buildings being at once entrusted to him.

From his earliest period he developed tact and a good and sound judgment, which later brought him into extensive practice in the useful if somewhat prosaic sphere of arbitration and the business side of his profession. The care and consideration he ever devoted to constructional detail led him early to the production of very complete and detailed drawings and to the preparation of a specification in which a builder would find all his questions already considered and answered.

About 1889 he was much engaged in the study of the methods of technical education, and the needs of buildings required for the polytechnic movement, especially in South London; and over a very long period he devoted much time to the specialised requirements and planning of hospitals and of asylums for the insane, and perhaps the larger portion of his practice was in buildings of this character; his practical knowledge was undoubtedly enriched and quickened by his great attachment to the London Hospital, with which he was intimately connected as a Governor and on the House Committee, and his interest in the many charitable institutions of the sort which he served as hon. consulting architect.

In 1903 he entered into partnership with his old friend, F. M. Harvey [*F.*], who, however, retired from this partnership five years later, and in 1913 he entered into partnership with C. Fleming-Williams and

J. C. S. Mummery [*Associates*], the former unfortunately predeceasing him by a few weeks.

Of great energy and with a quick and ready mind he allowed himself little recreation beyond the practice and enjoyment of music, and an untiring interest in Freemasonry, in which he was Past Grand Superintendent of Works in the Craft and Mark Degrees, a member of the Royal Arch Chapter, Old Union Chapter, and acted as adviser to the Masonic Boys' School at Bushey.

Of his extensive practice, of great diversity, extending to some 60 years, some of the more recent buildings were:—The Central Y.M.C.A. Building, Tottenham Court Road; Napsbury Asylum; Royal National Orthopaedic Hospital; Reconstruction of the London Hospital; Poplar Hospital; St. Mark's Hospital, Working-Class Dwellings, Plumbers Place and Moira Place, Shoreditch; Kneesworth Hall; Little Common Convalescent Home, etc.

J. C. S. MUMMERY [*A.*].

## MINUTES.

At the Tenth General Meeting (Ordinary) of the Session 1918-19, held Monday, 17th March 1919, at 5 p.m.—Present: Mr. Henry T. Hare, *President*, in the chair; 25 Fellows (including 10 members of the Council); 37 Associates, 6 Licentiates, and visitors—the Minutes of the Meeting held 3rd March were taken as read and signed as correct.

The decease was announced of the following members:—Albert Lewis Guy, elected *Associate* 1882, *Fellow* 1904; William Baird, elected *Associate* 1908; Walter Godfrey Green, elected *Associate* 1908; Charles Lionel Fleming-Williams, elected *Associate* 1905; Charles Welborne Piper, elected *Associate* 1888; Bernard Hugh Webb, elected *Licentiate* 1911.

The following members attending for the first time since their election were formally admitted by the President:—A. N. W. Hodgson [*F.*]; Maurice E. Webb [*F.*]; G. E. Lovegrove [*F.*]; E. W. Roberts [*A.*]; A. P. Lloyd [*A.*].

Sir Frank Baines, K.B.E., M.V.O., having read and illustrated by lantern slides the first portion of a Paper on WAR FACTORIES AND SHEDS: THEIR CONSTRUCTION AND ADAPTATION TO FUTURE NEEDS, on the motion of Mr. Percival M. Fraser [*F.*], seconded by Mr. Max Clarke [*F.*], it was Resolved that the Meeting be adjourned till the 28th April for the remainder of the Paper.

The proceedings terminated at 7 p.m.

At the Adjourned General Meeting (Business), held Monday, 24th March 1919, at 5 p.m.—Present: Mr. Henry T. Hare, *President*, in the Chair; 14 Fellows (including 8 Members of the Council), 9 Associates (including 2 Members of the Council), and 3 Licentiates—consideration of the Revised Scale of Charges was resumed, commencing with Clause 4.

Clause 4 was amended as follows:—"In the case of alterations of and additions to existing buildings a higher percentage may be charged, not exceeding twice the amount due under Clause 1 for new buildings of the same cost."

A new clause was inserted—viz., Clause 4a—as follows: "In works in which designs for fittings, appointments, decorations, or complex detail or construction are main features, special fees may be charged according to the circumstances, and also for designs for furniture."

Clause 6 (a) and (b): The words "or otherwise" were inserted after the words "cubic measurement."

Clause 7: The words "on the issue of the certificate to the Contractor" were deleted.

Clause 8: The clause was amended to read as follows: "In all cases where work is executed wholly or in part with old materials, or where material, labour, or carriage is provided by the client, the percentage shall be calculated as if the works had been executed throughout by a contractor and with new material."

Clause 9: The words in the first paragraph after "herein provided for" in second line to be deleted, and the following to take their place: "Additional charges may be made in accordance with the amount of work involved." The subsections in the remainder of the clause to be dispensed with: subsections (a) to (d), (e) to (h), and (i) to (m) to form three separate paragraphs. In subsection (d) the words "existing buildings" to be substituted for "buildings to be altered."

Clause 10 (c): After the word "charge" in first line insert "for the services mentioned in Clause 1." Omit final sentence of sub-section (c).

Clause 12: Add the following words at the end: "and the professional standing of the architect."

The Meeting adjourned at 7 p.m.

At the Eleventh General Meeting (Ordinary) of the Session 1918-19, held Monday, 31st March 1919, at 5 p.m.—Present: Mr. Walter Cave, *Vice-President*, in the chair; 15 Fellows (including 9 members of the Council), 9 Associates (including 1 member of the Council), and 3 Licentiates—the minutes of the meeting held 17th March were taken as read and signed as correct.

The decease was announced of Edward Smith Coldwell, elected *Associate* 1909, Capt. George Burgoyne Owen, elected *Associate* 1911, and William Jaques, elected *Associate* 1880.

Captain E. J. Rimmer, B.Sc., Assoc. M. Inst. C.E., Barrister-at-Law, having read a Paper on LEGAL DIFFICULTIES IN THE ADMINISTRATION OF A BUILDING CONTRACT, a discussion ensued, and on the motion of Mr. Max Clarke [*F.*], seconded by Mr. H. D. Searles Wood [*F.*], a vote of thanks was passed to him by acclamation.

Capt. Rimmer having responded to the vote and replied to various questions raised in the discussion, the proceedings closed and the meeting terminated at 7 p.m.

At the Adjourned General Meeting (Business) held Monday, 7th April 1919, at 5 p.m.—Present: Mr. Henry T. Hare, *President*, in the Chair; 15 Fellows (including 7 members of the Council); 9 Associates (including 2 members of the Council), and 2 Licentiates—consideration of the Revised Scale of Charges was resumed, commencing with Clause 13.

Clauses 13 and 14 were carried.

The President proceeding to put to the Meeting an amendment on Clause 15, Mr. H. W. Wills [*F.*] called attention to the fact that there was not a quorum present.

By-law 67, paragraph 3, having been read, the President ruled that in the absence of the quorum required by the By-law, any further resolutions passed by the Meeting would be invalid, that there was consequently no object in continuing the discussion, and that the Meeting should dissolve.

The President in closing the proceedings stated that the document as amended would be reprinted and issued to members with the notice calling a Special Meeting at which the remaining clauses would be considered and the document as a whole put for confirmation.

The President further announced that the Special Meeting would take place on Monday, 12th May, and the hour of meeting be eight o'clock instead of five.

The Meeting then separated.



## COMPETITIONS.

Borough of Taunton Housing Scheme.  
Borough of Morley Housing Scheme.

The Competitions Committee of the Royal Institute of British Architects request Members and Licentiates of the Institute not to take part in the above Competitions until a further announcement is made that the Conditions have been brought into conformity with the Institute Regulations for Architectural Competitions.

## Newcastle-upon-Tyne Lay-out Scheme for Housing.

The Competitions Committee of the Institute have withdrawn their objection to the Competition for the Newcastle-upon-Tyne Lay-out Scheme.

## Election of Members, 2nd June, 1919.

Applications for election have been received from the undermentioned gentlemen. Notice of any objection or other communication respecting them must be sent to the Secretary R.I.B.A. for submission to the Council prior to Monday, the 12th May.

## AS FELLOWS [19].

- ADAMS: PERCY HENRY [A., 1895], 32 Craven Street, W.C.2, and "Mathousa," Warrington, Surrey.  
 ALLISON: RICHARD JOHN, O.B.E. [A., 1904], H.M. Office of Works, Storey's Gate, S.W.1, and 63 Hornsey Lane, Highgate, N.6.  
 BRIDGES: EDWARD JAMES [A., 1888], Lieut.-Colonel S.R.E.S., Headquarters R.E., 12, Wilton Road, Salisbury, and 33 Fowler's Road, Salisbury.  
 BRIGGS: MARTIN SHAW [A., 1905], 16 Brookenhurst Gardens, Mill Hill, N.W.  
 BUNNEY: MICHAEL, M.B.E. [A., 1906], 33 Henrietta Street, W.C.2, and "Windhill," Meadway, N.W.4.  
 CHESTON: JOHN ALLFORD [A., 1912], 3 Tudor Street, New Bridge Street, E.C., and "Hampton Lea," Langley Park Road, Sutton, Surrey.  
 COMYN: HEATON [A., 1900], 28 Austin Friars, E.C., and Hill Cottage, Orpington, Kent.  
 FRANK: JAMES ERNEST [A., 1900], 42 Russell Road, W.14.  
 GIBBONS: JOHN HAROLD, M.C. [A., 1902], 4 St. Mary's Parsonage, Manchester, and 14 Birch Grove, Rusholme.  
 HALL: EDWIN STANLEY, M.A.Oxon [A., 1911], 54 Bedford Square, W.C.  
 HATHAWAY: PERCY WILLIAM [A., 1911], Town Hall, Rochdale, and 8 Harridge Street, Healey, Rochdale.  
 HINCHLIFFE: PERCY ARCHIBALD [A., 1905], 14 Regent Street, Barnsley, and Wilcliffe, Victoria Street, Barnsley.  
 HODDAY: WILLIAM HERBERT [A., 1902], 62 Moorgate Street, E.C., and 198 Upper Clapton Road, E.5.  
 MOORE: ARTHUR HENRY [A., 1892], 11 Dowgate Hill, Cannon Street, E.C.4., and Poyntell, Romford, Essex.  
 MYERS: NORMAN TOLLER [A., 1907], 12 New Court, Lincoln's Inn, W.C., and Hillcroft, Hills Road, Cambridge.  
 SIMPSON: WILLIAM BEGG [Licentiate, recently passed the Qualifying Examination], 61 South Molton Street, W.1, and Little Pipers, Clay Hill, Enfield.  
 TOWSE: STANLEY [A., 1903], 9 Newcomen Street, S.E., and The Old Cottage, Tyiers Green, Hayward's Heath.  
 WARD: WILLIAM HENRY, M.A.Cantab., F.S.A. [A., 1893], 2 Bedford Square, W.C.1.  
 WATSON: WILLIAM ERNEST [A., 1905], F.S.I., F.R.San.I., No. 1 Western General Hospital, Liverpool.

## AS ASSOCIATES [165].

[The candidates are, or have been, serving with His Majesty's Forces, and, being Students and duly qualified, have availed themselves of the concessions granted to Students so serving (see Special Regulations, JOURNAL for March 1918).]

- ARCHER: HOWARD DENNES [S., 1914], Sorrelsykes Park, Leyburn, Yorks.  
 ARNOLD: RAYMOND CHARLES [S., 1912], 49 Thorold Road, Ilford, Essex.  
 ASHTON: ARTHUR, P.A.S.I. [S., 1907], Clifton Chambers, Wood Street, St. Anne's-on-Sea.  
 ATCHINSON: HAROLD PERCY REYNOLDS [S., 1912], 38 Fife Street, Sheffield.  
 BANKS: WILLIAM ARTHUR [S., 1911], Conway Terrace, 149 Corporation Street, Stafford.  
 BANNISTER: HARRY [S., 1915], 17 Ongar Road, Lillie Road, Fulham, S.W.6.  
 BARLEY: FRANCIS ALFRED [S., 1913], 10 Canewdon Road, Westcliff-on-Sea, Essex.  
 BATES: CYRIL FRANCIS [S., 1912], 30 Commercial Street, Newport, Mon.  
 BATTY: WILLIAM ARNOLD, M.C. [S., 1910], Hillside, Ben Rhydding, Leeds.  
 BEAVERSTOCK: HORACE [S., 1914], "Beach Dene," Newstead Grove, Nottingham.  
 BENJAMIN: HORACE BERTON [S., 1906], 18 Priory Road, Acton Green, Chiswick.  
 BESTOW: SIDNEY FRANCIS [S., 1913], 18 Market Street, Newcastle-on-Tyne.  
 BISIKER: ARTHUR MILTON [S., 1913], 60 Crouch Hall Road, N.8.  
 BLACKMORE: ALFRED CHARLES [S., 1908], Westfield, Cardigan Road, Bridlington, Yorks.  
 BONSER: KENNETH JOHN [S., 1913], Kinoulton, Brunswick Road, Sutton, Surrey.  
 BRACEWELL: ARTHUR [S., 1905], Willowbank, Keighley.  
 BREWILL: LIONEL COLIN [S., 1912], Edwalton, Notts.  
 BRIDGE: THOMAS MOSS [S., 1914], 31 Park Road, Walkden, Lancs.  
 BROWN: JOHN, D.L., D.S.O. [S., 1900], 80 Abington Street, Northampton.  
 BROWN: JAMES McLELLAN [S., 1913], City Engineer's Office, Dundee.  
 BROWN: WALTER JAMES [S., 1912], Marlborough House, Taunton.  
 BRUNTON: BERTRAND FREDERICK [S., 1912], 6a Peterborough Villas, New King's Road, S.W.6.  
 BURFORD: JAMES [S., 1916], 16 Tregunter Road, S. Kensington, W.10.  
 BUTCHER: ALBERT JOHN [S., 1912], Hazlemere, Central Avenue, Stoke Park, Coventry.  
 BUTTERWORTH: HAROLD, M.A. [S., 1917], Somerset Buildings, 19 Brazennose Street, Manchester.  
 CAMPBELL: DUNCAN ALEXANDER [S., 1906], 51 North John Street, Liverpool.  
 CAWKWELL: ROBERT [S., 1913], 1 Standon Road, Wincobank, Sheffield.  
 CHARLEWOOD: GEORGE EDWARD [S., 1910], 4 Mosley Street, Newcastle-on-Tyne.  
 CHADLE: JOHN OSCAR [S., 1911], 2 New Square, Lincoln's Inn, W.C.  
 CHERITON: WILLIAM GEORGE LLOYD [S., 1913], 20 Mount Ephraim Lane, Streatham, S.W.16.  
 CHRISTIAN: REGINALD RAYNER [S., 1905], 58 Chester Road, Northwood, Middlesex.  
 CHURCH: LESLIE DONALD ALGAR [S., 1913], "The Homestead," High Road, Epping, Essex.  
 CLARKE: JAMES ANDREW [S., 1911], 354 Waterloo Road, Cheetham Hill, Manchester.  
 CLARKSON: GEORGE FLINT [S., 1909], 43 Holland Road, Kensington, W.14.  
 CLAYTON: GERALD RUPERT [S., 1915], 2 Oozehead Lane, Blackburn.  
 CLEMES: FRANK [S., 1911], 6 Westcroft Square, Ravenscroft Park, W.6.

- COLE: EDWARD ROBINSON FERDINAND [S., 1914], 83 Bankhall Street, Bootle, Liverpool.
- COOPER: FREDERIC ROLAND [S., 1908], "Southdene," Headlands, Kettering.
- COPPLESTONE: THOMAS STAPLEDON [S., 1911], 142 Cavendish Road, Clapham Common, S.W.12.
- COULDREY: WALTER NORMAN [S., 1906], 19 Palace Avenue, Paignton, Devon.
- CROSSLAND: HARRY EWART [S., 1912], Woodleigh, Station Road, Sutton-in-Ashfield, Notts.
- CRUTCHLEY: FREDERICK ERNEST [S., 1908], 10 Queen's Grove Road, Chingford, Essex.
- DAVIES: EDWARD CREIL [S., 1913], Abbotsford, Brambletye Park, Redhill, Surrey.
- DONALDSON: BENJAMIN [S., 1911], 18 Windsor Avenue, Gosforth, Northumberland.
- DOUGILL: WESLEY [S., 1913], Aysgarth, Wensleydale, Yorks.
- DYSON: ERNEST VINCENT [S., 1913], 4 Chapel Lane, Headingley, Leeds.
- EILOAET: RONALD EDWARD [S., 1912], 17 Elsworth Road, N.W.3.
- ELSTON: JAMES [S., 1910], 227 Field Coy. R.E., B.E.F.
- ELSWORTH: LANCELOT ANDREW [S., 1912], 41 Rotherwick Road, Golder's Green, N.W.4.
- FARRER: JOHN CAMPBELL [S., 1912], 19 Crescent Road, Crouch End, N.8.
- FIRTH: JOSEPH PERCY [S., 1904], 12 Westfield Grove, Wakefield.
- FISHFR: KENNETH JOHN [S., 1914], Officers' Hospital, Llangammarch Wells, Brecon, Wales.
- FOOTE: ALEXANDER ALLAN [S., 1913], 92 Warrinder Park Road, Edinburgh.
- FORTESCUE: GEORGE ALAN [S., 1918], 1 Ringford House, West Hill, Wandsworth, S.W.
- FOSTER: WILLIAM SYDNEY [S., 1912], 40 Broom Grove, Rotherham.
- FOSTER-TURNER: FREDERICK WENTWORTH [S., 1914], "Pevensey," Bury Farm Estate, Edmonton, N.9.
- GARRARD: CYRIL PROCTOR [S., 1913], 38 Westgate Street, Ipswich.
- GIBBONS: JOSEPH GEORGE [S., 1908], 106 Oak Tree Lane, Selly Oak, Birmingham.
- GISBY: ERNEST WILLIAM [S., 1910], 13 Meyrick Road, Stafford.
- GOSLING: HUGH FOLEY [S., 1919], Annandale, 15 Birdhurst Road, Croydon.
- GRELLIER: CECIL [S., 1913], St. Martin's Croft, Epsom.
- HAGUE: HORACE VINCENT [S., 1909], 4 Cheapside Derby.
- HALL: ROBERT BRERLY [S., 1916], 320 Norton Way, Letchworth.
- HARDY: THOMAS CHARLES [S., 1915], 15 Carmichael Place, Langside, Glasgow.
- HARRISON: AUSTEN ST. BARBE [S., 1914], Amery, Beckenham, Kent.
- HART: EDMUND JOHN [S., 1911], 9 Bank Street, Salford, Manchester.
- HEYWOOD: LEONARD [S., 1914], 200 Chorley Old Road, Bolton, Lancs.
- HIGGS: HAROLD JOHN [S., 1910], Goring-on-Thames, Oxon.
- HIGSON: HERBERT WALTER [S., 1906], 21 Wood Street, Bolton.
- HILL: GEORGE NOEL [S., 1913], 4 Buckingham Road, Wallasey, Cheshire.
- HONEYMAN: JAMES MACLAREN [S., 1915], Invermark, Castle Road, Cathcart, Glasgow.
- HOOPER: ARNOLD FIELDER [S., 1913], Kelsey Corner, Beckenham, Kent.
- HOOPER: CHARLES OWEN [S., 1909], Holmwood, Hill Lane, Southampton.
- HOPKINS: WILFRID WALTER [S., 1915], 52 Teviot Street, South Bromley, London.
- HOWE: JOHN LIBERTY [S., 1912], "Farringford," Northwood, Middlesex.
- HOWE: WILFRED [S., 1908], 121 Upperthorpe Road, Sheffield.
- INGHAM: WALTER [S., 1910], County Hall, Beverley, E. Yorks.
- IRVING: DAVID WISHART [S., 1909], 11 Chambers Road, Southport.
- JENKINS: HERBERT LLOYD [S., 1908], 97 Breakspeare Road, Brockley, S.E.4.
- JENNER: THOMAS GORDON [S., 1909], 13 Grosvenor Place, Margate.
- JOHNSON: ARTHUR GERALD [S., 1913], 35 Cambridge Road, Wanstead, E.11.
- JONES: CHARLES FREDERICK [S., 1914], 9 Howard Gardens, Cardiff.
- JONES: NEVILLE WYNNE [S., 1914], 33 Hawthorne Avenue, Uplands, Swansea.
- JONES: WILLIAM HAROLD [S., 1910], Woodbury, 24 Sunnyside Road, Hornsey Lane, N.19.
- KELLOCK: ANDREW DUNCAN [S., 1913], 326 High Street, Portobello, Edinburgh.
- KEYTE: JOSEPH RUSHBROOKE [S., 1914], 34 Woodstock Road, Moseley, Birmingham.
- KNIGHT: DOUGLAS EDWARD [S., 1914], 29 Millicent Road, West Bridgford, Notts.
- KNIGHT: WALTER JOHN [S., 1912], 44 Barclay Road, Fulham Road, S.W.
- KNOTT: ARTHUR JOHN [S., 1909], Rosemount, Winscombe, Somersetshire.
- LAWRENCE: FREDERICK ORCHARD [S., 1915], 164 Aigburth Road, Liverpool.
- LEWIS: HAROLD MORGAN [S., 1914], "Sunnyside," Pontypriid.
- LEWIS: HORACE MERSHAM [S., 1900], The Pollards, Wokingham.
- LITTLE: TOM CURRY [S., 1905], 78 Coronation Road, Bristol.
- LYNE: DANIEL ROY [S., 1911], 1 Corringway, Golder's Green, N.W.
- MCBETH: JOHN GORDON [S., 1914], Birnam House, Sale, Cheshire.
- MACKAY: HARRY [S., 1913], 10 Clonmel Road, S.W.6.
- MACKENZIE: KENNETH BEAUMONT, M.C. [S., 1911], North House, Lockwood, Huddersfield.
- MACMILLAN: ALEC LOWE [S., 1909], 85 Cambridge Road, Southport.
- MARCHANT: FRANCIS OLIVER, M.C. [Special War Examination], Hankow, China.
- MARCHINTON: JAMES EDWARD [S., 1911], 76, Carter Knowle Road, Sheffield.
- MARTIN: CYRIL FREDERICK, B.A. Cantab. [S., 1909], 106 Colmore Row, Birmingham.
- MARTIN: WILLIAM HERBERT [S., 1913], 15, Lunham Road, Upper Norwood, S.E.19.
- MARTIN-KAYE: DOUGLAS NIEL [S., 1914], 7d Grove End House, St. John's Wood Road, N.W.3.
- MAY: PERCY [S., 1905], 235 Devonshire Road, Honor Oak Park, S.E.23.
- MEREDITH: JOHN NELSON [S., 1914], Victoria Chambers, Prestatyn, N. Wales.
- MOORE: JOSEPH [S., 1912], Sunny Bank, Armstead Road, Beighton, near Sheffield.
- MORTIMER: ALAN LEE [S., 1912], 134 Tempest Road, Leeds.
- MORGAN: HUGH TOWNSHEND [S., 1906], 88, Gower Street, W.C.1.
- MORLEY: CYRIL SAVAGE [S., 1911], 83, Gartmoor Gardens, Southfields, S.W.19.
- MOSS: DONALD JOHN [S., 1912], 150, Belsize Road, Hampstead, N.W.6.
- NEWBOLT: BERNARD [S., 1913], Thorn Lea, Shipley, Yorks.

- NORMIS: ERNEST BOWER [S., 1911], Rosemere, Port Erin, Isle of Man.
- PALMER: ROGER LIDDSDALE, M.C. [S., 1913], 70 Chancery Lane, W.C.
- PARKES: EDGAR MAINWARING [S., 1912], 180 London Road, Northwich.
- PETERS: THOMAS JAMES [S., 1909], 14, Hartington Street, Newcastle-upon-Tyne.
- PORTSMOUTH: OLIVER SPENCER [S., 1912], 7 Richmond Villas, Swansea.
- RICHARDSON: HENRY JOHN [S., 1902], 63, Queen Victoria Street, E.C.
- RICHARDSON: JOHN BLYTHE [S., 1903], 62, Wentworth Road, Doncaster.
- RICHEY: NORMAN [Special War Examination], The Vicarage, Percy Main, Northumberland.
- ROBERTSON: DAVID [S., 1912], 53 Buccleuch Street, Dumfries.
- ROBERTSON: GODFREY ALAN KNITH [S., 1911], c/o Miss Steven, Barden Towers, Strandtown, Belfast.
- ROLLO: ROBERT LESLIE [S., 1918], 9 Lennox Road, Cardonald, by Glasgow.
- RUBERY: SAMUEL [S., 1912], 49 Lonsdale Road, Wolverhampton.
- RYLATT: ARTHUR [S., 1911], West Holme, Cottingham Road, Hull.
- SANDERS: THOMAS ANDREW [S., 1919], 5 Gloucester Road, Southport.
- SATCHELL: HUGH GLANVILLE [S., 1919], "Charlbury," Castle Bar Road, Ealing.
- SEABROOK: SAMUEL BROUGHTON [S., 1910], 12 Eastwood Road, S. Woodford, N.E.
- SELLECK: GEORGE BROOKING [S., 1906], 2 Greenbank, Plymouth.
- SHENSTONE: GERALD [S., 1913], Caswell, Glen Road, Leigh-on-Sea.
- SHIBLEY: ALBERT REGINALD [S., 1913], Belmont, Sheringham, Norfolk.
- SLATER: NORMAN WOODFORD [S., 1914], Knutton Road, Wolstanton, Staffs.
- SPOONER: FRANK PHILIP [S., 1912], Clive House, The Bishop's Avenue, East Finchley.
- STAINSBY: GEORGE PAWSON [S., 1917], 9 Endsleigh Gardens, N.W.
- STEWART: CUTHBERT BERTRAM [S., 1914], 29 Stanhope Road, Darlington.
- STEWART: ADAM KNOWLES [S., 1914], Creeve, Loughgilly, Co. Armagh.
- STOBART: FOSTER ROWLAND [S., 1913], Harewood, Grange Road, Newcastle-on-Tyne.
- STONE: JOHN THOMAS [S., 1915], 4 Creswick Walk, N.W.4.
- STONER: ARTHUR PHILIP [S., 1912], "Arrochar," Dyke Road, Brighton.
- STREADWICK: VERNON JAMES [S., 1914], 84 Tulse Hill, Brixton, S.W.2.
- STRICKLAND: HARLEY CLARENCE WILFRED [S., 1914], 37 Mount Road, Sunderland.
- SUDDARDS: FRANK, P.A.S.I. [S., 1908], 5 St. John's Terrace, Heysham Road, Morecambe, Lancs.
- SUTCLIFFE: FREDERICK [S., 1911], "Wyngarth," King's Road, Colwyn Bay, N. Wales.
- SYMINGTON: HERBERT ANDREW [S., 1908], The Cottage, Narborough, Leicestershire.
- TAYLOR: JOHN ALEXANDER CHISHOLM [S., 1915], The Manse, Waterhead, Oldham.
- TAYLOR: ROWLAND VICTOR [S., 1911], County Hall, Wakefield, Yorks.
- THOMAS: ARTHUR PHILIP [S., 1910], Danygraig, Southern down, Bridgend, Glam.
- THOMAS: CHARLES STANLEY [S., 1908], 29 Broughton Road, Handsworth, Birmingham.
- THOMAS: WILLIAM NORMAN [S., 1911], 6 Norman Road, Northfield, Birmingham.
- THOMERSON: HAROLD ALBERT [S., 1911], Holmby House, 46 Kenninghall Road, Upper Clapton.
- THORPE: ALEXANDER [S., 1910], 6 Newton Road, Bayswater, W.
- UNSWORTH: GERALD [S., 1904], Steep, Petersfield, Hants.
- WARWICK: JAMES GUY [S., 1915], 103 Park Road, Peterborough.
- WELCH: HERBERT ARCHIBALD [S., 1909], "Headlands," Huddersfield, Yorks.
- WEST: JOHN ARCHIBALD [S., 1911], 98 Leslie Road, Sherwood Rise, Nottingham.
- WESTCOTT: GEORGE [S., 1893], West Gate, Cheshire, Cheshire.
- WILKINS: VICTOR [S., 1900], "Oak Lodge," Thornton Heath, Surrey.
- WILLMAN: JOHN HENRY [S., 1905], 65 Greenway Avenue, Taunton.
- WILLS: TRENWITH LOVERING [S., 1910], Hightown, near Liverpool.
- WILSDON: PERCY THOMAS [S., 1911], 27 Blomfield Road, Warwick Avenue, W.9.
- WILSON: JOSEPH [S., 1913], 138 Sinclair Drive, Langside, Glasgow.
- WINEBAUM: GOODMAN GEORGE, P.A.S.I. [S., 1915], 13 Shiplake, Calvert Avenue, N.E.
- WOOD: THOMAS SPENCER [S., 1915], Hawthorne House, Handsworth Wood, Birmingham.
- WRIGHT: CHARLES HENRY [S., 1912], 49 Market Square, Aylesbury.
- WYETH: JOHN HENRY [S., 1906], "Westview," Beeches Avenue, Carshalton, Surrey.
- YEOMAN: GUY HEMINGWAY [S., 1906], 10 Shrubbery Road, Streatham, S.W.16.

## NOTICES.

Sir Frank Baines' Paper on War Factories,  
28th April, at 8 p.m.

The Adjourned General Meeting for the reading and discussion of Sir FRANK BAINES' Paper "WAR FACTORIES AND SHEDS: THEIR CONSTRUCTION AND ADAPTATION TO FUTURE NEEDS," will take place on Monday, 28th April, at 8 p.m.

Annual General Meeting, 5th May, 1919.

The Annual General Meeting will be held Monday, 5th May, 1919, at EIGHT O'CLOCK p.m., for the following purposes:—

To read the Minutes of the previous Meeting; formally to admit members attending for the first time since their election.

To consider the ANNUAL REPORT OF THE COUNCIL, printed on preceding pages of this issue (rough copies of the Report will be available at the Meeting).

Revised Schedule of Professional Charges.  
12th May, at 8 p.m.

The Adjourned Special General Meeting for the consideration of the REVISED SCHEDULE OF PROFESSIONAL CHARGES will be held Monday, 12th May, 1919, at 8 p.m. Clauses 15 to the end remain to be discussed. The PRESIDENT will then move the adoption of the Revised Schedule. Mr. Herbert W. Wills [F.] has given notice to move the following amendment: "That the Revised Scale be rejected in its entirety, and that no action be taken in the matter."

Conference on the Condition of the Building Industry,  
Tuesday, 20th May, at 11.45.

See preliminary notice, p. 139 of this issue.



## FACTORY BUILDING CHIEFLY IN RELATION TO THE WELFARE OF THE WORKER.

By H. T. BUCKLAND [F.].

Read before the Royal Institute of British Architects, Monday, 17th February 1919.

WHEN one considers the variety of manufactures carried on in this country, each presenting a different demand for accommodation, it at once becomes evident that a paper of this kind can only deal with the general principles governing the problems which the architect may be called upon to solve. Diverse as the requirements of the special manufacture may be in regard to their main purpose, one important consideration should be common to them all—i.e., adequate provision for the welfare of the worker, a subject the importance of which it has taken nothing less than a world war to bring home to the mind of the manufacturer and the nation at large. Four years of war have done more in this direction than half a century of peace, and now at the end, as we hope, of our days of trial and the beginning of a new era it seems fitting that we as architects should review, not alone the practical outcome of the activities of the past four years, but the causes and influences which have made this outcome possible.

I propose to discuss first the factory, as a factory, and the general considerations which of necessity regulate its plan so that it may be an efficient part in an efficient machine. The war with its demand for the production of munitions in large quantities created the demand for large factories, and gave the architect an unrivalled opportunity for the planning of large schemes from the date of their inception. Whether during the process of reconstruction this demand will continue it is not possible to say, but I feel sure you will agree that it is our business to discuss the matter in its largest aspect. I therefore propose to consider as briefly as possible the problems which would arise in dealing with a large factory upon a new site.

The first question would be the selection of a site. The location of this should be governed to some extent by the labour available in the district, and it follows almost without saying that a spot should be chosen either where there is a large working population close at hand, or in such a position that the workpeople can conveniently be conveyed to the works, either by rail, tram or motor-bus. Convenient access by rail is essential for the supply of raw materials and the despatch of the finished products. The proximity of a canal is also very desirable. All large works will require their own railway sidings and many of them a canal arm. It will, I think, usually be found there is a tendency to underestimate the quantity of railway siding required. Trucks, whether empty or full, occupy an equal amount of line, and any hitch in loading or unloading is likely to cause a congestion, and consequent friction with the railway company if sufficient facilities are not provided. If a canal arm is required it will be well to consider the position of it at an early stage, as it is likely to require a good deal of room, and need careful planning so that it may not interfere with the proper development of the site. Any enquiries for a site must be accompanied by investigations as to the water, gas, electricity, sewers and other services available, points too often neglected. Considerations with regard to the type of plan to be adopted largely affect the area of the site required, and this, in its

turn, depends upon the sites available in the district in which it is proposed to build, if for special reasons, such as the labour supply or the proximity of a supply of coal or raw material, some special district is decided upon. This naturally raises the general question of whether it is better—assuming no other considerations to be of paramount importance—to build upon one or more floors. Chiefly on account of the desire to erect buildings of a temporary character for the purpose of the manufacture of munitions of war the majority of the factory buildings put up during the last four years have been of one storey only, and I think there is a consensus of opinion among manufacturers that this is the most convenient type of plan; the reasons are not far to seek. The labour in moving raw material and the products in course of manufacture is reduced to a minimum, supervision is made easy, and the problem of lighting is simplified.

Owing to the shortage of steel during the period of the war, it became essential to resort to a type of roofing which dispensed with the necessity for its use, and at the same time did not make too great demand upon the timber supply; the result was that the Belfast type of roof was almost generally adopted. It has many disadvantages. The trusses have to be fairly close together and slightly restrict the daylight, and although countershafting can be suspended from it, it is not suitable for carrying a main driving shaft. Before the war the roof known as "saw tooth" was almost invariably adopted for one-storey shopping and the north light regarded as a *sine qua non*; with the Belfast roof an ordinary top light became essential. I recently had the opportunity of discussing this question of roof lighting with a works engineer, whose opinion I value very highly, as he has not only designed and erected a variety of workshops, but has supervised the work done in them afterwards, and had the opportunity of studying results. I will quote his conclusions as they were given to me:—"I have no hesitation in saying that the 'saw' type roof facing north is the most suitable of all roofs and particularly lends itself to easy and rapid construction. The principals can be made of steel, reinforced concrete or wood. The gutters can be made of cast iron, and when made of such, pockets can be cast on the sides of the gutters to take and support the wood principals, which makes it a very satisfactory and a fairly cheap job. If buildings are required for cranes, the building in such a case would have to be as follows:—Gantry, 20 to 25 feet high, and the eaves of the building 8 to 10 feet higher, making in all 30 to 35 feet. For such a building a span roof is very suitable, and the sun does not have the same effect when the roof is so high as when the eaves are only 12 to 14 feet high; in fact, a shop of the latter height should never be built in such a way that the sun can shine through the roof, but this does not apply when the roof is 30 to 35 feet high."

It is a curious anomaly that it should be generally agreed that sunshine is essential in a house, whereas a very large body of opinion regards it as a nuisance in a factory. With the large roof area one gets in a one-storey factory of any size the question of the disposal of storm water is one which needs more careful consideration than is usually given to it; in a heavy storm the volume of water to be dealt with is considerable, and the size of the drains provided needs to be calculated carefully, especially as it is improbable that any great fall will be obtainable owing to the long lengths of drain and the level of the site, which obviously should be as flat as possible. A return to normal conditions will doubtless result in a return to former methods of construction, and although the Belfast roof has stood us in good stead during the past few years, I should hardly think it is likely to be largely adopted when other forms of roof can be employed in which materials of a more durable description than felt and materials of a similar character can be used for an external covering. However this may be, the essential considerations will remain the same, and roof light and roof ventilation will present the same problems under both conditions.

Having decided upon a site and the type of plan adapted to it, I propose briefly to consider the general principles which should guide the architect in the development of his plan. It almost goes without saying that the raw material should enter at the one end of the machine and the finished product emerge from the other, or complete a circuit. If we regard our factory as the machine, the



same condition should apply, although the process is longer and more complicated than that of a single manufacturing process. The raw material may come along either as a purely raw material or partly manufactured; in either case it will need to be stored. This will involve the provision of a warehouse, which will naturally be placed against the railway sidings, and as the finished articles will be despatched by rail it will probably be convenient to combine the two warehouses, one for raw material and the other for finished goods, in one building. The next problem will be the transport from the sidings or the warehouse to the building in which the first process is to be performed. This will probably be done by trolleys on a track, a number of trolleys being pulled by an electric trolley. So far we have only dealt with processes common to all factories, and it is now that we shall have to consider the type of manufacture to be provided for. Before commencing to plan any factory it is essential an architect should study in an existing factory the process of manufacture, and take particulars of the sizes of the machines and the areas which will be required round them for convenient working, and the relation of the different processes to each other. Having made a machine-setting-out plan, it will then be possible to arrive at sizes and widths of bays, and proceed to a solution of the problem so far as the manufacture is concerned; examination, sorting and packing will follow, and accommodation for them will need consideration. From the packing room the parcels of finished goods will be conveyed by trolleys to the finished warehouse ready for despatch by rail.

So far our consideration has been confined to the process of manufacture, and our next problem will be the workers, and it is necessary to deal with their movements as carefully as with the raw material. The first point which presents itself is getting the worker in and out, at the same time providing some record of his coming and going. To get two or three thousand workpeople in and out of a factory without loss of time to the individual or his employer, and keep a record of the hour at which the worker arrives and departs, requires the exercise of some ingenuity. The old check system, in which each worker was provided with a metal check which he took from its place on a board when he entered the works and replaced when leaving, has been almost entirely superseded, at any rate in large works, by a system of clock registers. These record the hour of arrival and departure upon slips which are pushed into the machine and stamped much in the same way as the date is marked on a railway ticket, the slips being left in racks provided for them at the side of the clock, and while the employees are at work the necessary particulars are taken from the slips and entered in the books.

The next consideration will be the provision of cloakroom accommodation, and this is very important where women workers are employed. It is desirable that lockers with solid sides and expanded metal doors should be provided for each person so that the clothes do not hang against each other. There should be ample accommodation for changing clothes and boots and for the drying of wet clothes. Good ventilation is essential, and means should be adopted to prevent pilfering or theft. Adequate lavatory and other sanitary accommodation should be grouped with the cloakrooms, in a separate apartment if possible, and all under the supervision of a special attendant. It will be readily recognised that the time occupied in taking off cloaks and hats, and probably changing boots, may be considerable, and if this took place during the employer's time the loss to him would represent an appreciable sum of money each day. Assuming 1,000 workpeople took 10 minutes each per day in the process—i.e.,  $2\frac{1}{2}$  minutes at entering and leaving the works morning and evening and mid-day—10,000 minutes, or about 166 hours, would be lost to the employer daily. This can be avoided if the workpeople pass the clocks after leaving the cloakrooms, and now that the hours of labour are being reduced I think it will be found that the clocks will be placed in the workshops even more generally than they are at present.

Having got the workers into the building, it remains to consider what are the essentials in factory construction which will best contribute to their health and welfare and, as a direct result, to their efficiency as workers. As a general statement, I think it may be said that in the past, with comparatively few but notable exceptions, the manufacturer has not been alive to the importance of this sub-

ject, and as I have already remarked, it has needed a world-war to awaken him, and even this would probably not have been effectual without the energising influence of the Government at the instigations of Mr. Lloyd George. In September 1915 a committee was appointed by him as Minister of Munitions, with the concurrence of the Home Secretary, which was invited "To consider and advise on questions of industrial fatigue, hours of labour, and other matters affecting the personal health and physical efficiency of workers in munition factories and workshops." The appointment of this committee, of which Sir George Newman was chairman, was confirmed by subsequent Ministers of Munitions, and continued to sit until nearly the end of last year, when it issued a final report summarising the result of its enquiries and investigations. I do not think it would be possible to over-estimate the value of the report and the work done by this committee. Although primarily intended to deal with munition works and the exceptional conditions brought about by the war, signs are everywhere apparent, as a result of the activities of this committee, that manufacturers are realising more and more that the health of the worker is not a secondary consideration, but one of vital importance. "Without health there is no energy, without energy there is no output." I quote from one of the publications of the committee already referred to, which goes on to say: "More important than output is the vigour, strength and vitality of the nation. Nor is health only a physical condition. It is also mental and moral." With these statements before us as the considered opinion of a committee of experts who devoted so much time to the investigation of the problem, it would be difficult to exaggerate the importance of the welfare of the worker. As I shall be quoting freely from the various reports and publications of the Newman Committee, I should like to make my acknowledgments at once, and dispense with the need for further reference to them.

The essential conditions for maintaining the health of the worker may be summarised as—

Favourable conditions for the body itself, i.e.—food, air, exercise, cleanliness, warmth, etc.—and a satisfactory environment,—i.e., a sanitary factory and good housing accommodation.

Our concern for the moment being the factory, I propose to deal first with environment. The Factory and Workshops Act, 1901, states the essential requirements for a proper environment, but offers no suggestions for satisfying them, so I do not propose to quote it, as the general conclusions which have been arrived at cover the ground it traverses.

**LIGHT.**—Whether natural or artificial, the lighting of the factory should be adequate and as constant as possible. Roof lighting is generally considered preferable to lateral lighting, and a north light is thought to be the best. Where lateral lighting is necessary, the question of the height of rooms in relation to their width is an important one. Pulleys and belting are greatly obstructive to light. Light-coloured walls and white ceilings add much to the general brightness of a shop. Dirty windows or roof lights cause a great loss of daylight, and it is important to give facilities for easy cleaning from within as well as from without. It may safely be said that it is impossible to give too much light.

As regards artificial lighting, I do not propose to discuss the merits of gas as compared with electric light as an illuminant; each has its advocates, but there is no question that the use of the former makes the subject of ventilation more difficult. Common to the use of both is the importance of constancy and uniformity of illumination over the necessary area of work, and the arrangement of the lights so that the direct rays do not fall on the eyes of the worker or cast shadows on the work. Bad lighting results in damage to eyesight in addition to affecting output unfavourably. Electric lighting is very successfully done with  $\frac{1}{2}$ -watt electric lamps fixed at about 15 ft. centres. In addition, it is necessary to have independent lights where required.

**VENTILATION.**—In ventilating the factory, clean air as well as a stimulating atmosphere should be the aim in view, the essential requirements being freshness and movement. Cool air is more stimulating than warm, and dry air is preferable to damp. The proportions of carbonic acid in the air of a room are no longer regarded as the infallible test of the ventilation as they were about ten years

ago, and movement is now regarded as the chief essential. In this matter of ventilation the factory has passed through the same experience as the school building, and the same conclusions have been arrived at—viz., that a natural system is likely to prove the most efficient. However, like all other systems, it is necessary that it should really be in action, and this is only obtained when windows and other openings intended for the inlet or outlet of air are open. Not an easy matter to ensure, if the control is at the workers' discretion. There are, I believe, still a number of factories ventilated on the "Plenum" system, but one seldom meets an advocate of it, and I have heard of many cases where it has recently been taken out and a natural system substituted.

As a general summary of the ways and means of ventilation I cannot do better than quote *in extenso* the conclusions and recommendations of the Health of Munition Workers Committee as follows:—

"The ventilation and heating of every workshop provides a separate problem. There is no uniform or stereotyped method which will give satisfactory results everywhere. The essential requirement is current ventilation and cross ventilation. The means to be adopted must be subject to local conditions in each case, and the general lines alone can be indicated here.

"(a) *Cubic Capacity.* This is the first essential. Though the minimum of 250 cubic feet per worker (400 during any period of overtime) prescribed by S.3. (1) of the Factory Act is seldom infringed, the provision of adequate ventilation may be rendered difficult owing to the close proximity of the workers to one another.

"(b) Definite openings communicating with the outside air should be provided in every workshop, preferably opposite each other. The average machine shop and all similar one-storey shops may be provided with louvres along the length of the roof ridges, or better, with narrow openings where the roof meets the wall. Such louvres should be permanently open, and would generally ensure that the atmosphere will at least not be grossly bad.

"(c) Fixed openings should be supplemented by the use of doors and windows (which will open) and fans. Fans are specially valuable to meet emergencies and abnormal conditions and provide for the thorough movement of the air.

"(d) Local sources of impurity and heat production should be dealt with by the provision of hoods, exhausts, etc. Smoke and fumes from neighbouring chimneys may also have to be guarded against.

"A close connection exists between ventilation and temperature. What is the best temperature depends on the character of the work and the habit of the worker. Sedentary workers require a temperature as high as 60° Fahrenheit, though it may be somewhat higher when the air is in motion.

"Means of heating are usually restricted by practical considerations to some system of steam heating or hot-water pipes; the ideal form is no doubt by radiant heat, as may be seen from the excellent and invigorating conditions which prevail in many smithies and forges. Gas-heated radiators in which the burnt gas escapes into the shop are not permissible.

"Some responsible person should be specially detailed to supervise the ventilation and heating. The most complete installation for ventilation and heating—that is, the means—may be rendered ineffective by injudicious management or failure in proper or continuous maintenance. Rapid changes of temperature at different times of the day, varying circumstances of use and occupation, all require appropriate treatment. Mismanagement may arise through neglect to observe the prevailing conditions and to put in operation the appropriate appliance for the supply of air and heat. While it is for the management to provide the means, it is for the workers to aid in their use and application."

In commenting upon the above suggestions, it may be said that the general tendency in England is to under-heat rather than over-heat workshops. For high efficiency shops should be capable of being over-heated, so that on cold wintry mornings the workpeople will feel much more ready to commence work at once than if the shop is partly heated.

Cleanliness in the factory is essential not only for health but because of its bearing upon the self-respect of the worker, and it is desirable that floors should be of such a character that they can be washed down when necessary. They should thus be made of some smooth, hard, durable and impervious material as required under the Factory Act. A floor of this character, however, is not the most suitable for workers to stand upon, and consequently footboards for workers at machines should be provided.

Although the Factory Act and the regulations of the Home Office contain no regulations with regard to the provision of washing facilities, except where workers are engaged on processes in which poisonous materials are manipulated, there is a general agreement that facilities should be provided wherever possible. In the provision of lavatories there are one or two important details which should be borne in mind. Sufficient provision must be made for draining the floor, which should be smooth, hard and impervious, and properly graded and sloped. Any walls against which basins are placed should be faced with impervious and easily cleaned material. The sanitary fittings should be very strong and durable and free from loose parts such as plugs and chains, and be adequately secured either to the walls or stands and have a good supply of hot and cold water. Waste pipes of a sufficient size are essential, and fewer stoppages are likely to occur if they discharge on to open floor channels at frequent intervals and avoid long runs of horizontal pipe. Washing troughs are regarded as preferable to separate basins.

Desirable as it is, no general provision of baths for workers has yet been achieved except in cases where the nature of the employment makes it compulsory under Home Office Regulations. In large factory communities, such as Port Sunlight, the problem is dealt with by the provision of bathing establishments, and although in some factories one or two baths have been provided, largely as an experiment, I have not heard of any ordinary factory being supplied with really adequate bathing facilities.

Drinking water should always be available, and is regarded as so essential that under the Police, Factories, &c. (Miscellaneous Provisions) Act, 1916, there is an order to the effect that provision shall be made at suitable points for an adequate supply of wholesome drinking water from a public main or other approved source, and at each point of supply it shall be clearly marked "Drinking Water." The provision of upward jets from which the workers can drink dispenses with the necessity for taps and cups.

Of equal, if not greater importance than healthy working conditions, is the subject of housing, and though this does not come within the scope of my paper, I think it will be agreed that if Government control does as much for the workers in their houses as it has done for them in the factory during the past four years we may look forward to seeing them adequately housed.

For the maintenance of industrial efficiency the worker must be adequately fed. The importance of this fact had already been realised in many factories before the war, but the *extreme* importance of this point was only realised under the conditions of high pressure which prevailed in factories engaged upon the manufacture of munitions of war. The result was that canteens have been erected throughout the country, and it is probably in this branch of the work of the Welfare and Health section of the Ministry of Munitions that more tangible, although not more valuable evidence is displayed than in any other. To the architect it has proved of importance, as he has been concerned to some extent in its development. Apart from the recognition of the necessity for such provision, the great incentive in controlled factories to induce manufacturers to make the necessary provision for canteens and welfare work generally was the arrangement sanctioned by the Government under which the cost of the provision of canteen and certain other welfare work might be regarded as an expense chargeable upon Excess Profits Duty. Contingent upon this arrangement was the proviso that proposals for the provision of canteens must be submitted before the work is begun to the Secretary, Canteen Committee, Central Control Board (Liquor Traffic). In addition to the inducement just mentioned under



the Police, Factories, &c. (Miscellaneous Provisions) Act, 1916, the Home Secretary is empowered to issue orders requiring the occupier of a factory or workshop to make reasonable provision for preparing or heating or taking meals for workers employed therein.

The outcome of all this was the issue of a pamphlet by the Health of the Munition Workers Committee, a very useful document, stating the general principles which should regulate the planning of canteens. From personal experience I can testify to the adequacy of the conditions laid down and the suggestions made in this pamphlet, and I cannot do better than summarise them.

The site should be in a central position, easy of access to all parts of the works. No objection, however, was raised to placing the canteen outside the works altogether if no suitable site was available within the factory precincts. As a matter of fact, the best position for a canteen would be on the boundary of the works, so that it could be entered from within or from without the factory. If placed outside the building can then be used for concerts, etc., after working hours. The building should include a dining-room, kitchen, scullery, larder stores, catering office and sanitary accommodation. The stores should open upon a yard, with easy access for tradesmen's carts, etc. The system of service would be from a counter, therefore the kitchen and scullery should abut directly upon the dining-room. Eight and a half square feet per person seated is suggested as the allowance in the dining-rooms. Separate dining-rooms for the two sexes are advocated, and it is suggested that they should be so designed that they can be thrown together to form a single hall for social or educational purposes.

As regards the medium for cooking in small canteens, gas is suggested as the most efficient; in larger ones steam and electricity is recommended. For washing up teak sinks are considered more suitable than earthenware for cleaning crockery, but earthenware or galvanised iron sinks are advised for the preparation of vegetables. Attention is drawn to the fact that there will be a percentage of the users of a canteen who require "warming up" facilities, and it will be necessary to provide warming closets or hot plates. Certain details of cooking apparatus are given, but it is very wisely suggested that cooking apparatus manufacturers should be asked to submit schemes and recommendations.

It was suggested that the building should not be like a barrack, but should have an agreeable and attractive appearance. This was not quite consistent with the recommendations as to construction and cost, which was considered should be about 5d. per foot cube, exclusive of central heating and lighting, or, taking a canteen seating 500 as an example, the total cost, including building and equipment, should be about £7 per seat. Many canteens were erected at these prices two years ago, but I doubt whether from an architect's point of view they quite adequately fulfilled the requirements with regard to appearance. Latterly, of course, it has not been possible to erect at anything like the price mentioned per foot cube or per head, owing to the continued rise in prices. My experience has been that the Canteen Committee always gave careful consideration to any scheme submitted to them and showed their willingness to encourage wherever possible any proposals which made for the improvement of the building from an architectural point of view, and in this connection it was very gratifying to find factory proprietors anxious to put up a really worthy building, even to the extent of making up the difference in cost out of their own funds.

Interesting as it is, time will not permit of any detailed reference to the administration of a canteen except in so far as it influences the plan, which in one or two particulars it certainly does. Quick service is essential. The customers are not waited upon at the tables (except under special circumstances), but go to the counter for what they require, taking it themselves to the tables. The method of payment is usually by ticket, or disc, which the customer buys at the ticket office when he enters the canteen, to the value of food required, and gives in exchange when he is served. The relation of this ticket office to the entrance and the counter is of considerable importance, and should be so arranged that there is no interruption to the flow of traffic.



In the majority of factories some provision is made for the treatment of injuries, but inspection shows that there is need for improvements, especially in treating minor injuries. No factory of any size can be regarded as well equipped unless it possesses a surgery with a trained nurse in charge. This should be specially designed for the purpose, and should comprise a surgery, rest room, store and nurses' room. In factories where both sexes are employed a second room is desirable. Without going into details, it will be sufficient to say that the general construction and finish should be such as usually appertain to hospital construction. In large factories a surgery of this kind, however centrally placed, cannot be equally accessible to all parts of the works, and it is considered advisable (and in certain types of factory demanded under an order of the Home Office) to maintain first-aid boxes in the workshops, which may take the form of a cupboard containing first-aid materials. Such a provision will enable a workman who sustains a slight injury while at work to have it dressed without losing the time required to go to the surgery.

Apart from the treatment of injuries is the question of sickness and ill-health, the importance of which is greatly increased owing to the widespread introduction of women into industry. Sickness, whether due directly or indirectly to the industrial occupation, is harmful both to industrial efficiency and output. This had been recognised before the conditions prevailing during the war brought it home with so much force, with the result that there has been an increasing tendency to appoint welfare supervisors, whose functions are to keep records of individual workers, investigate cases of lost time, sickness, low output, incapacity, working conditions, home visiting, feeding arrangements, training and instruction, housing, transit and recreation.

In the early stages of this movement it was chiefly the woman worker who was looked after, but the Committee sitting in January 1916 recommended the appointment of welfare supervisors wherever 100 boys are employed, it being recognised that the demoralising influences, such as high wages, restlessness, lack of control, which had become accentuated by the war, were in special need of control. I have had an opportunity on one or two occasions of discussing this question with directors of large factories, and I was very much impressed with the view they took of the importance of the subject and its probable effect upon the relations of the employer and employed in the future. The plans they are making go very much further in their provision for the welfare and education of the boys than has yet been required or suggested. Of extreme importance to all, but especially to boys, is the question of recreation, a fact which has been recognised by many large employers of labour by the provision of playing fields and parks in connection with their works, a movement which is rapidly gaining ground, and I think we may look forward to the time when every works of any size will be provided with its own playing field, gymnasium and baths.

It was inevitable that my remarks must largely deal with conditions brought about by the war, as no factory has been erected during the past four years except for purposes connected with the prosecution of the war. But although we look back with sadness while remembering the losses suffered and the sacrifices demanded by the war, it will be a great consolation to us to recognise the good which may result from it all in improved working conditions and really adequate housing for those—the workers—who have done so much, either on the field of battle or in the workshop, to secure the victory which has been won. I said *may* result, and in this connection I cannot do better than quote from the summary of conclusions of the Newman Report :—

"While there can be no doubt that since the appointment of the Committee in September 1915, the issue of their memoranda, the action of the Central Departments concerned, and the trend of opinion amongst employers, workers, and the public generally have combined to secure a very substantial improvement in the conditions of employment, it would be a very grave mistake to assume that all is now well, or that further care and attention are not still essential if a serious breakdown of industry is to be avoided. Further, while the Committee have of necessity been primarily concerned with the health and physical efficiency of the munition worker under the abnormal conditions created

by the war, they are strongly of opinion that the principles underlying right action at the present time are permanent and not merely transitory in importance, and should be accepted also as fundamental to all schemes for industrial health and betterment after the war. One of the vital and pressing problems before the country at the present moment and in the immediate future is the question of the health and contentment, the capacity, status, and efficiency of the industrial worker, whose contribution to the commonwealth is of ever-growing importance."

To any who may have come here to-night in the hope of hearing something new or particularly enlightening upon the subject I have dealt with I feel I must offer my apologies. I have only attempted, and I fear rather imperfectly, given a review of what has been done and of what may be regarded as the essential requirements in building modern factories.

## DISCUSSION OF THE FOREGOING PAPER.

MR. GEORGE HUBBARD, F.S.A., in the Chair.

Mr. MAX CLARKE [F.]: I have listened with great interest to Mr. Buckland's remarks, and particularly to what he said as to the rate at which he succeeded in carrying out the order. Personally, the one difficulty which I have had in factory building during the war has been that the gentleman who wanted the factory usually wanted it the day before he saw me and wished it completed about the day after I saw him. There is one problem Mr. Buckland did not touch on, and that is drainage. I came across a site which presented the greatest possible difficulties. It was quite a small site, practically flat, and the drains surrounding it were comparatively shallow. The next problem I encountered, and that also Mr. Buckland has not mentioned, was an adequate water supply for purposes of fire protection. We were a few thousand yards away from what was not a large supply, and even up to the present time it has not been decided what is to be done, because to get a supply to the works sufficient for an installation would cost a considerable sum of money. Mr. Buckland, too, did not tell us how he covered the Belfast roof-trusses. Of course, felt, ruberoid, Anderson's "Roc" are all available, but, in the London areas, their use is more or less discountenanced. I want to hear the result of covering a Belfast roof with some sort of asbestos, such as "Poilite," and whether it can be successfully bent. That is my difficulty at the present moment, and one on which I have been unable to make up my mind. I feel very interested in what Mr. Buckland has told us about the protection from the sun which a 30-foot wall gives. I had not heard that before, and, of course, it is only in this way one collects information. The skylights of my roofs were covered with a material which, it was said, would keep out the sun, but the stuff was washed off after half-a-dozen showers, so that the money was spent in vain. With regard to the 250 cubic feet of air space per worker, may I ask Mr. Buckland whether it applies equally for a shop which is 12 feet to the

eaves and one which is 30 feet? That would make a considerable difference. I built a bakery, and put up two very large openings, filled with movable louvres, which could be opened and closed. It was for baking biscuits for war purposes, and at about my second visit to see the bakery in full operation I found the large openings had been entirely covered with sacks. I said to the foreman, "What is the meaning of this?" "Oh," he replied, "the hands refuse to work if the louvres are open, and they say the air gets down between the louvres even when they are closed; that is too much air for them!" Has Mr. Buckland had any experience with tar slag, or with Tarmac for floors? I had better not tell my experience with that, but I should like to know whether his experience agrees or disagrees with mine. Mr. Buckland mentioned washing-troughs. I should absolutely decline to allow a washing-trough in any place I built could I possibly avoid it, if I understand it to be a receptacle in which more than one man washes in the same water, for that I consider to be most objectionable. Still, I do not think he could have meant that. One thing I have not been able to find out, and the remarks of Mr. Buckland emphasised my difficulty. He said the Government, or a department of the Government, told factory owners that they were to provide a place for "preparing" food. Does that mean that the employer is under any liability to provide it? I have myself provided a place for preparing the food, but the workman says he wants it not only prepared but provided. In that connection I may tell you of an incident which occurred in the borough with which I have much to do. I have to deal with what is called a kitchen—national, or communal, or Borough Council—and it is in full going order. I am also, unfortunately, a member of the Food Committee, and in that capacity I and some others had the pleasure of interviewing a lady in uniform who came from the Government. She told us that in Bloomsbury they had a very large factory—

large for the neighbourhood—employing about 800 hands, and she required a kitchen built in its immediate proximity. She wanted this kitchen to be built at once. "Oh," I said, "when the Government come to deal with a private individual they require him to provide a place where the workers can at least cook and warm their food and eat it. Don't you think the Government ought to do the same thing with their factory? Our national kitchen is only ten minutes' walk from this factory of yours, and you say it is too far for them to go—that it would take up too much time. If you think so, you had better provide your own kitchen." The lady went away. Within ten minutes we had a similar communication from a gentleman coming from the British Museum, and we were unable to provide one for him. These are instances of what the Government do in regard to other people. They ask factory owners to provide kitchens or means for the people to take their meals, but do not themselves make such provision. I should like to ask whether Mr. Buckland has had experience of both the sexes dining together in the factory canteen? Does he think it desirable to provide separate dining rooms? I am building a canteen at present in which I have arranged—rightly or wrongly—that the men should be in one room and the women in another. But that, I realise, militates against the suggestion that where a large common dining room is provided it can be used as a concert hall. It was at Hendon, I think, I saw a dining room intended to have one common room for both sexes. My rooms are each about 80 by 50 feet, and can seat about 400 people each. I do not know whether I quite grasp Mr. Buckland's idea of Government cost. I understood from what he said that the Government cost was about 5½d. a foot cube for the carcass of the building. It did not include lighting or heating or any fittings such as those in the kitchen, nor did it include eating utensils for the workpeople. For 800 people that cost might be £5,600. That is the basis now suggested by the Government. I think lighting is about 8s., and the utensils about 30s., and heating about 10s. I came here more especially to get some information about the rest-rooms. I have advocated strongly that there should be a surgery, a small dispensary apart from the surgery, a matron's room, and a rest-room for each sex, with separate lavatory accommodation. I should like to know whether that is considered too much or too little. I may say that I have recently built a sanatorium for dogs, and there I have provided a rest-room, a surgery and dispensary, and a place where the dog can have a bath, and I mention it because if that can be done for dogs it certainly ought to be done for human beings. I have not provided first-aid boxes, but I shall certainly do so. One thing to which I object in all this war work is the speed at which it is required to be done. Everyone tells me about the factory which they built in no time. One week it was a field and the following week ferro-concrete columns were grow-

ing up everywhere. A week after that the roof was on, and a fortnight later people were at work in the factory. All work done in that way is essentially bad, and I have had the unfortunate experience of having something to do with a war factory which was built at this rate. It is now tumbling down. Of course, the solicitors, the arbitration people, and the failures all follow, and the reputation of the architect is not improved by it. I think architects ought to make a bargain with their clients that when required to do things at such speed the client should bear the responsibility. You cannot have it every way. You cannot have your millions of cartridges or your hundreds of aeroplanes, or whatever it may be, and have a very satisfactory factory as well. I quite realise that many of these structures are of mushroom growth, and when peace is signed they will disappear. It is much better for the country that they should. On the other hand, many factories have been erected as permanent buildings, to carry on competition with, we hope, those abominations with whom we have been at war, and we do not expect to see those factories fall down, or even deteriorate much. I have done a considerable amount of factory work—for my sins—and I have been a good deal grumbled at by my clients, who call one set of factories "Max Clarke fortresses." I have been abused, yet they go up all the same. In 1917 a large bomb dropped within 4 feet of one of these factories, and made a hole in the ground 7 feet deep. It was not stigmatised a "fortress" then—at any rate I was not abused, for the building was not seriously damaged. There were 1,870 squares of glass broken in it, but that was nothing, though had the building been seriously damaged it would have made a great difference to my client's pocket.

Mr. D. B. NIVEN [F.]: I have great pleasure in seconding the vote of thanks to Mr. Buckland for his most interesting paper. Architects have had many strange things to do during the war, and to many of them factory construction was something new. During the years of war I have had something to do with this subject myself, having, like Mr. Buckland, been entrusted with the design of one of the new cartridge factories for the Government, and, like Mr. Buckland, I have found the work full of interest, and feel that if architects generally would throw their hearts into such work they would find it worth the while. On one occasion at the Ministry I asked one of the chiefs why it was that so few architects were being employed in designing these factories, and was told that if I could see the scrappy and indefinite plans submitted to them by certain architects I would not be surprised at their attitude. I am therefore all the more pleased to find that Mr. Buckland is an architect who is not above giving full study to such problems, and we have learned much from his descriptions of what he has done. During the war workpeople have become accustomed to a certain amount of welfare supervision and to comforts provided for them in factories.

Before the war certain manufacturers whose names are household words—Lord Leverhulme, the Rowntrees, and others—were pioneers in providing such amenities, but now through Government initiative much more attention has been given to these matters, and this lead is not likely to be departed from. Employers who have not provided such conveniences are bound to do so in the future. Already workpeople differentiate between the factory where their welfare is considered and that where no such consideration is given. In America they have to contend with many of the problems we have to deal with here. There they have their own housing problems, and at present have instituted a competition on novel lines. Instead of asking merely for designs for houses, they require competitors to plan the houses in relation to a factory establishment, and the competitors are asked to write a thesis showing an understanding of the whole communal relationship between masters and men. They are required to explain the location selected for the factory in relation to railways, roads and waterways, and to consider the supply of electricity, gas and water, and to describe an adequate provision for open spaces, playing fields, rest-rooms and canteens in connection with the factory itself as well as the proper provision of housing for the workpeople in relation to the factory unit. This competition is not yet decided, but in America they are expecting great things from it. I see Mr. Buckland adopted the Belfast system for his factory roofs. In my own case I was asked to consider this method, but found that it was possible to adopt a permanent north light construction with slate and boarded roofs, steel stanchions, and wood principals at a cost of only 5 per cent. more than for the temporary Belfast roof system. This was adopted, and there has been no reason to regret it. Mr. Buckland also spoke of iron gutters with pockets cast on them to carry the roof principals. I should have feared that with this construction vibration would have caused trouble from the joints opening and leaking. In our case we found that asphalt gutters hundreds of feet long were eminently satisfactory. These can be laid dead flat, open at either end, and their actual water-carrying capacity is very useful in easing the outflow to the drains in the event of a sudden deluge. But the drains from such great roof areas have to be carefully calculated, especially on flat, low-lying land where such factories are usually built, otherwise trouble may be expected.

Mr. BUCKLAND, in reply: I am very much obliged to both the proposer and seconder for their remarks, and to all present for according the vote of thanks. I feel that my paper has been a very inadequate one. One has had, of necessity, to generalise, and naturally that is not so interesting as particularising. With regard to drainage and water supply, on this particular site we had a big area to drain, but fortunately the main sewer was deep enough to take the foul water, and we formed a big tank underground

in which the rain water was collected for us in the various manufacturing processes. As regards covering for the roofs, these roofs were covered with boarding and two layers of "ruberoïd." In view of the temporary character of the building it was at first suggested by the Director of Factory Construction that a single layer would be sufficient, but realising the extremely tender character of the material we strongly urged the employment of two layers. I do not think anyone would employ "ruberoïd" for permanent building. As to what Mr. Niven said about the saw-tooth roofing upon the Government factory erected by him, he was evidently in a more fortunate position than we were in being able to get the necessary supply of steel, we being assured that none was available. "Tarmac" I do not like at all inside shops, and in my opinion it is only fairly satisfactory for outside work, as it gets soft in hot weather and will not stand wheeled traffic very well. In this factory the machines threw out a lot of oil and grease and we used wood-block flooring. We started with maple, but the supplies did not hold out, and as at that time much walnut was on the market as waste in the manufacture of rifle butts this was used, and proved an excellent substitute. The washing-troughs were not intended to be filled at all, being supplied with turn-round taps, and each worker washed from the taps as the water ran from them. With regard to a place for preparing food, the Home Secretary is empowered to issue orders requiring the occupier of a factory or workshop to make reasonable provision for preparing or heating meals for the employees.

A LADY: It does not include providing food.

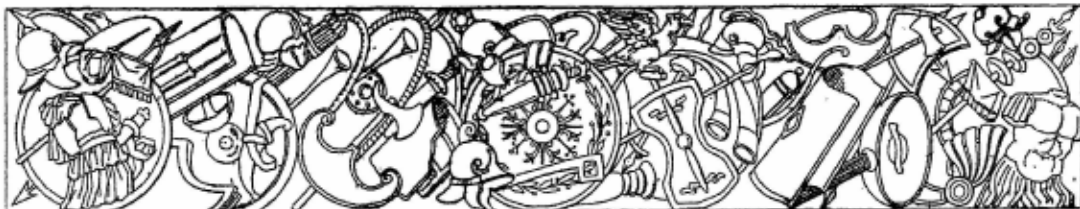
Mr. MAX CLARKE: This lady is in the Government employ, and she says it does not include providing food.

Mr. BUCKLAND: I have not come across a dining room common to both sexes, though it may be that there are such. I am sorry to say I did not include the question of rest-rooms in my Paper. I thought of that point, and intended to embody it. What is most hopeful is the fact that manufacturers should realise what an advantage it is to have rest-rooms. It is so much more valuable if one can get a voluntary realisation of that fact instead of being forced to it by legislation. Upon the question of gutters, I have used asphalt and found it quite satisfactory. In the factory illustrated the ruberoïd was worked to form a big gutter between the Belfast roofs. The works engineers to whom I referred worked the saw-toothed roof in a very ingenious way. The cast-iron gutters formed the girder. On it were cast sockets at 6 feet intervals, and these received the blades of the roof, upon which rested the boarding covered with asbestos slating. It formed a very cheap roof. I was much interested in Mr. Niven's remarks, because I knew he was putting up a similar factory to the one I have been describing and illustrating. I agree with what he says about architects



who never did factory work before the war, but have done it since. I had done very little such work before the war, except alterations to existing factories. I think it extremely important that architects should realise that a factory is a thing well worth doing; it exercises one's planning faculties to an enormous extent. And if manufacturers, on their part, only realised what an architect can do for them in planning a factory in which the work could be carried on better and more expeditiously they would more often employ an architect. In alterations to existing factories the architect, as soon as he gets on the job,

finds in many cases what deplorable places they are from the working point of view. One finds large firms carrying on their work in factories erected nearly a hundred years ago, which have been extended from time to time without a proper regard to future developments, the result being that each addition, instead of adding to the general convenience of working, has detracted from it. One of the prime functions of the architect is, as we know, to attend to the lay-out and co-ordination of everything, and if manufacturers would realise this they would find it greatly to their advantage.



## CORRESPONDENCE.

### "Good Work Certificates" for Builders and Workmen.

*King's Lynn, April 24th, 1919.*

*To the Editor, JOURNAL R.I.B.A.,—*

SIR,—What an incentive would be given to the builders in this country if the suggestion made by Mr. S. B. Caulfield, which was printed on page 107 of your JOURNAL for March, could be acted upon. This very thoughtful and novel suggestion was—"Could the R.I.B.A. found an association for tradesmen, to be nominated by a number of architects under whom they had worked?"

If one of the Institute architects was pleased with the way a builder had carried out his ideas, it should not be a very difficult matter for the architect to call in two of the members of the Institute to verify that the Institute's certificate was worthily earned by the builder. There would be keen competition amongst builders to hold these certificates, for they would form a visible standard of quality, which no builder at present can possess or attain. All builders would desire this recommendation and proof of their reliability, and it would be an incentive to them to put the best materials and labour into all their constructional work.

I have personally known over one thousand builders. Some of the most thoughtful and conscientious have deplored the fact that their work is not recognised, except by a monetary payment, and I am sure these men have taken as much interest in their work as

the architect himself. I have known builders who have pulled down and rebuilt work because it has not been satisfactory to themselves, who have voluntarily put themselves to considerable loss because the work and materials have not been to their satisfaction, and have altogether been quixotically conscientious. I have been in both professional and business men's homes where I have seen framed certificates placed upon the walls for much less worthy objects than the conscientious carrying out of an architect's plan, and I am sure that the proposed certificates would produce a higher quality of work of some builders. It would certainly be a great assistance to the architects of the Institute, inasmuch as builders would not only endeavour to obtain contracts under members of the Institute, but it would be an incentive to give the greatest satisfaction.

Further, I do not see why artisans themselves should not obtain a similar certificate, for when a joiner, bricklayer, plumber or mason has done some difficult or intricate work, it would certainly give that impetus to craftsmanship which nearly all architects are agreed is sadly wanting. It might be truly argued that the certificates to the working man will produce jealousy amongst those of his fellow-workmen who are cross grained, but my experience is that the man who has the brain to rise above his fellow-men in the way he executes his work is certainly proof against any petty jealousy. The majority of workmen will be proud that one of their number possesses the certificate of such a world-famous Institute.—Yours faithfully,

J. H. KERNER-GREENWOOD.



## TERESIO RIVOIRA, ARCHÆOLOGIST.

The cause of archæological research has suffered a great loss in the death of Commendatore Teresio Rivoira, which occurred at Rome on 3rd March. Rivoira was perhaps best known to English students by his volumes on "Le Origini della Architettura Lombarda," translated into English by Mr. G. McN. Rushworth in 1910. The original Italian editions were presented to the Institute Library by their author on their publication. At the time of his death he had completed the MS. of an important work on Roman architecture, and it was in connection with his researches on this subject that he last visited the Institute Library in 1917, to examine certain of Palladio's drawings of the Roman Baths. Mrs. Arthur Strong, Assistant Director of the British School at Rome, pays a fine tribute to Rivoira in a communication to *The Times*, appearing in the Literary Supplement for 27th March, and it is from this source that the following extracts are taken:—

Rivoira's name will always be associated with the revival of interest in Rome and the Empire which is perhaps the most significant fact in the history of archæology during the last quarter of a century. He early applied himself to the study of Roman architecture and of its developments—a task for which he was admirably equipped through being, like his friend, Giacomo Boni, possessed of a sound practical knowledge of construction. His first great work on Lombardic art, its origin and ramifications, was much more than a mere study of the Lombardic, or Comacine, style; in it Rivoira penetrated to the hidden source of all Western architecture, and, boldly inverting the judgment alike of modern historians and critics, established what was to become his central thesis—that the influence, namely, which moulded mediæval architecture in Europe originated neither in Byzantium nor in the Hellenic East, but in Italy, with Rome as radiating centre. The two most significant results of these investigations were, in the first place, that the Church of the Holy Wisdom at Byzantium could be traced back to the *Thermae* of Ancient Rome, and secondly that Lombard influences carried beyond the Alps by Benedictine monks were responsible for those northern developments of Romanesque which others had attributed to an Eastern origin. These theories, even if they did not win universal acceptance, gave Rivoira a European reputation and a permanent place among the champions of Rome in the fierce discussion as to the priority of Eastern or Roman influences in the formation of the architectural style of Mediæval Europe; and it is largely due to his labours that the balance of opinion is no longer as strongly in favour of the East as when Strzygowski sent out his first challenge, and raised his famous war cry of *Orient oder Rom*.

After mentioning Rivoira's second work, "Architettura Musulmana" (1914), Mrs. Strong, in speaking of his happily completed study of Roman architecture, says that this will deal with its development from the earliest days of Ancient Rome down to the seventeenth century, for he justly regarded the Italian architecture of the *Seicento* as one of the greatest that the world has known. The last time he came to our library, little over a month ago, he said to me, "I am putting into this book everything I know," unconsciously bestowing by these simple words the highest praise upon his work, for his

learning was indeed as vast as his thought was profound. He was not only a great archæologist but a considerable historian, and a scholar commanding an exhaustive knowledge of chronicles and manuscripts, of coins, drawings, and prints, and of whatever might contribute to illustrate and confirm his theories. Above all, he was an indefatigable traveller, and shrank from describing, as so many do, what was known to him only at second hand.

Like his larger works, his numerous monographs were devoted to proving the originality and fruitful influences of Roman architectural forms. In one of his latest communications to the *Accademia Pontificia*, for instance, he showed that the much discussed Church of the Holy Sepulchre at Jerusalem was simply the compound of a round imperial mausoleum (such as Santa Costanza) and of a Roman basilican church of ordinary Constantinian type: and he pointed out once more the futility of attributing to the East every form of Christian architecture simply because the East was the cradle of Christianity. . . .

Rivoira married an English lady who shared all his interests and was the companion of his arduous travels: at their charming flat in the Via Cavour English scholars and students were always certain of a welcome and of meeting, besides their genial hosts, what was best in the intellectual society of Rome.

Captain Philip Dennis Bennett [A.], *Grissell Gold Medalist*, 1914, whose death from influenza occurred on the 24th February, was the only son of Mr. and Mrs. Archibald S. Bennett, of Edgbaston. He received a commission in the 5th Royal Warwickshire Regiment in 1910, and on the outbreak of the war volunteered with the regiment for foreign service, and went with it to France in March 1915. He was invalided in January 1916, and since recovery, and until a few weeks ago, when he was released, had been serving with the Reserve Battalion. Captain Bennett, who was a grandson of the late John Henry Chamberlain, was the first student of the Birmingham School of Architecture, and served his articles with Messrs. H. T. Buckland and E. Heywood-Farmer, of Birmingham. He was elected Associate in March 1914, and in January of that year was awarded the Grissell Prize and Gold Medal.

**Town Planning in New Zealand.**—Particulars are to hand of the Town-Planning Conference to be held this month in Wellington, N.Z., under the direction of the Department of Internal Affairs. Mr. S. Hurst Seager [F.] is acting as Hon. Organising Director. Town development in the Dominion still suffers from the lack of proper legislation, and the first subject before the Conference will be a paper on the need for an efficient Town-Planning Act. The means of securing permanent organisations for town-planning education and advancement will also be discussed. It is aptly pointed out in the official circular that the thousands of soldiers returning home, who have seen something of the beauties of England and France, will not be content to settle down "in the scattered shacks and inconvenient cottages which have done duty as 'homes,' and the ugly collections of disfigured stores and buildings which have done duty as 'villages.'" The exhibition in connection with the Conference is intended to be illustrative of every branch of town-planning activity, and exhibits will be drawn from all parts of the Dominion. Competitions on town-planning subjects are also to be held, and these will include designs for a garden city, a garden suburb, civic improvement, workers' homes, and photographs of civic beauty contrasted with civic ugliness.



9 CONDUIT STREET, LONDON, W., 10th May 1919.

## CHRONICLE.

The R.I.B.A. Record of Honour: Sixty-first List.

### *Fallen in the War.*

DOE, EDGAR HERBERT, Private, Royal Berks. Regt. [Probationer], son of Mr. Herbert W. Doe [A.], died on 1st October, 1918, of wounds received in action in France.

TAYLOR, MARTIN BARTLEY, Private, — [Student]. Killed in action in Palestine.

### *Military Honours.*

CARNELLEY, Capt. HERBERT, M.C., R.E. [Associate]. Awarded the Military Cross October 1918.

SCOTT, THEODORE GILBERT, 2nd Lt., Norfolk Regt. Awarded the Military Cross (*London Gazette*, 26th July 1918).

### *Knighthood for a Past President R.I.B.A.*

At the distribution of New Year's Honours announced last week the distinction of Knighthood was conferred upon Mr. Reginald Blomfield, R.A., *Royal Gold Medallist, Past President R.I.B.A.*

### *Prizes and Studentships, 1920.*

The competitions for the Prizes and Studentships in the gift of the Royal Institute, which have been in abeyance during the war, have now been revived, and copies of the pamphlet giving full particulars may be obtained from the Institute, price sixpence. Candidates who under the age limit were eligible in 1915 are eligible for the Competitions for 1920. This concession applies to all Candidates irrespective of military service. For the current year the value of the following Prizes and Studentships involving travel has been increased by 50 per cent.:—Soane Medallion, Pugin Travelling Studentship, Godwin Bursary and Wimperis Bequest, Owen Jones Travelling Studentship, Tite Prize, Henry Saxon Snell Prize.

THE ESSAY MEDAL AND TWENTY-FIVE GUINEAS, open to British subjects under the age of forty years, will be awarded for the best Essay on a subject of architectural interest, which may be chosen by each competitor for himself. Competitors are expected to make a useful contribution to knowledge by accurate research, so that the Essays can be accepted as authoritative statements on the subjects dealt with. Candidates in the Final Examination competing for this Prize may submit their Essay as the thesis required under Division (F) of the Programme [see KALENDAR, p. 430].

THE MEASURED DRAWINGS MEDAL AND TWENTY-FIVE GUINEAS, open to British subjects under the age of thirty years, will be awarded for the best Measured Drawings made by the competitor of any important building—Classical or Mediæval—either in the United Kingdom or abroad. Candidates may apply to the Records Committee for guidance and direction as to subjects.

THE SOANE MEDALLION AND £150, open to British subjects under the age of thirty years, will be awarded for the best Design for a Bridge over a River, with covered Footways. The design is to include the laying-out of the approaches and the treatment of the space between the bridge and an important public building which closes the vista on the north side at a distance of 1,000 feet from the centre of the bridge. Provision must be made for embankment and roadways on both sides of the river. The winner of the Medallion has to study abroad for at least six months, and must furnish satisfactory evidence of his studies in the form of measured drawings and sketches.

THE PUGIN STUDENTSHIP (SILVER MEDAL AND £60), open to members of the Profession (of all countries) between the ages of eighteen and twenty-five years, and intended for the study of the Mediæval Architecture of Great Britain and Ireland, will be awarded to the competitor who submits the best selection of drawings and testimonials. Special value is attached to perspective sketches done on the spot of an explanatory rather than a pictorial nature, and to measured drawings. The winner of the Prize has to devote a tour of not less than eight weeks to the study of mediæval architecture in the United Kingdom, and to furnish the Council with an illustrated paper descriptive of his tour, together with his measured drawings, sketches, &c.

THE GODWIN BURSARY (supplemented by the Wimperis Bequest): A SILVER MEDAL AND £97 10s., intended for the study of Modern Architecture Abroad, and open to British subjects without limitation as to age, will be awarded for the best selection of practical working drawings (the competitor's own work), or other evidence of special practical knowledge, and testimonials. The winner is required to spend at least five weeks abroad in the investigation of modern planning and modes of construction, drainage, water supply, ventilation, and other sanitary arrangements, and must, before the 31st December 1915, deliver to the Council an illustrated descriptive report of his researches. He may confine his inquiries and report to one building only if of sufficient importance.

THE OWEN JONES STUDENTSHIP (CERTIFICATE AND £150), founded for the encouragement of the study of architecture, more particularly in respect to Ornament and Coloured Decoration, and open to members of the profession under the age of thirty-five years. Candidates must submit testimonials, with drawings, some of which must be from existing buildings and from other examples, exhibiting their acquaintance with colour decoration and with the leading subjects treated of in Owen Jones's *Grammar of Ornament*, together with an original architectural design treated in colour decoration. The winner has to devote a tour of at least six months' duration to the improvement and cultivation of his knowledge of the successful application of colour as a means of architectural expression, and during his tour must prepare a drawing of a subject in coloured decoration for presentation to the Institute, the subject to be specified beforehand by the Council from the itinerary of his tour; if a particular subject be not prescribed, the Council reserve to themselves the right to select any drawing from among the studies made during his tour.

THE TITE PRIZE (CERTIFICATE AND £45), open to British subjects under the age of thirty years, will be awarded for the best Design for an Open Loggia, with Library over, in the Italian style, according to the methods of Palladio, Vignola, Wren, or Chambers. The Loggia is to be 150 feet long by 35 feet wide, open to a garden on the south, and with windows, &c., if desired, on the north

side, which may be considered as surrounded with trees, but not near enough to exclude light. The winner is required to study in Italy for at least four weeks, and give satisfactory evidence of his studies there in the form of measured drawings and sketches.

**THE HENRY SAXON SNELL PRIZE (CERTIFICATE AND £90)**, founded for the encouragement of the study of the improved design and construction of Hospitals, of Convalescent Homes, and of Asylums for the Aged and Infirm Poor, will be awarded to any member of the Architectural Profession (who may associate with himself any member of the Medical Profession) who produces the best Design for an Asylum for 200 Aged and Infirm Poor. The successful candidate will be required to spend not less than five weeks in a tour either in the United Kingdom or abroad, to study, examine, and report on the type of building for which he has won the prize, in the place or places he undertakes to visit.

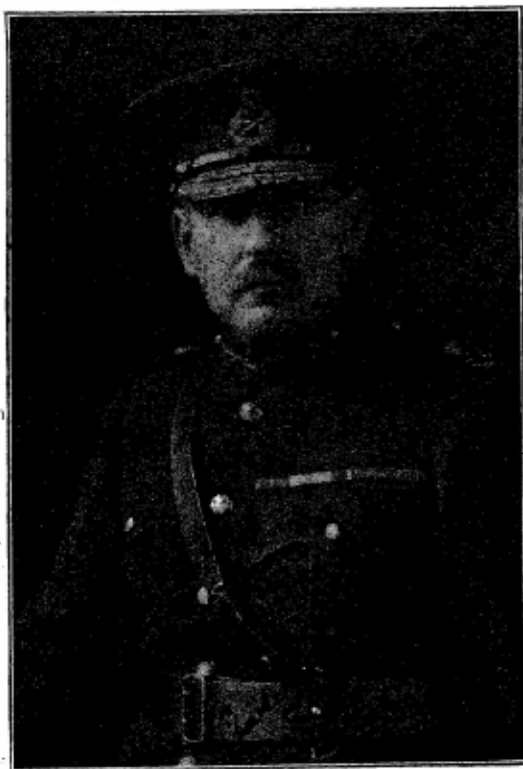
**THE HENRY JARVIS STUDENTSHIP**, value £200 a year, tenable for two years at the new British School at Rome. Candidates must be British subjects and either Associates or registered Students of the Royal Institute. The competitions for the Studentship will be held in conjunction with the competitions for the Scholarship (tenable for three years at the British School at Rome) offered by the Royal Commissioners for the Exhibition of 1881, and will be conducted under the direction of the Faculty of Architecture of the British School at Rome. Candidates must be prepared to go through two competitions, of which the Final will be held about three months after the First Competition. Candidates will be entitled to compete more than once in the First Competition until they have gained the Student-

ship or are debarred by the age limit. Three months will be allowed for the preparation of designs, reckoned from the date of the publication of the subject with conditions. From the candidates who have competed in the First Competition the Faculty of Architecture will select not more than ten candidates for the Final Competition. The candidate placed highest in the Final Competition will be awarded the Jarvis Studentship, unless being also qualified for the Commissioners' Scholarship he elects to take the latter, in which event the Jarvis Studentship will be awarded to the candidate placed next on the list.

**THE GRISSELL PRIZE (GOLD MEDAL AND TEN GUINEAS)**, for the encouragement of the study of construction, and open to British subjects who have not been in practice more than ten years, will be awarded for the best Design for a Water Tower (to be constructed in any material) to hold 50,000 gallons, on high ground, to supply a town.

**THE ARTHUR CATES PRIZE (FORTY GUINEAS)**, founded for the promotion of the study of Architecture, more especially in relation to the application of geometry to vaulting, stability of edifices, and design, is open to British subjects who have passed the Institute Final Examination at one sitting. Candidates must submit not less than two sheets comprising one of studies of subjects of Classical or Renaissance, and one also of Mediæval Architecture, accurately drawn in perspective, and also not less than two sheets of detailed studies in relation to the application of geometry to vaulting and stability of edifice.

**THE ASHPITEL PRIZE (BOOKS VALUE £10)**, awarded to the student who distinguishes himself most highly in the Final Examinations of the current year.



Major-General Sir CHARLES ROSENTHAL, K.C.B., C.M.G., D.S.O. [Associate], French Legion of Honour, French Croix de Guerre with Palm, Belgian Croix de Guerre, Commander of the Second Australian Division (see JOURNAL for April, p. 124).

### The Annual Elections: New Nominations.

The following nominations have been made by members in conformity with By-law 33:—

#### As Vice-President.

CROSS: ALFRED W. S. [F.]. Nominated by Sydney Perks, E. Jeaffreson Jackson, M. E. Collins, J. Douglass Mathews, E. S. Underwood, Josiah Gunton, *Fellows*; Herbert W. Doe, *Associate*.

#### As Members of Council.

ANGEL: ROBERT J. [F.]. Nominated by Sydney Perks, W. Henry White, Max Clarke, E. Jeaffreson Jackson, J. Douglass Mathews, M. E. Collins, *Fellows*; Herbert W. Doe, *Associate*.

DICKSEE: BERNARD J. [F.]. Nominated by H. D. Searles-Wood, Wm. Woodward, W. A. Forsyth, A. Saxon Snell, Edward Mansell, *Fellows*; Leonard Elkington, E. Alex. Young, Lawton R. Ford, *Associates*.

EDWARDS: F. E. PRABER [F.]. Nominated by Sydney Perks, W. Henry White, E. Jeaffreson Jackson, M. E. Collins, J. Douglass Mathews, A. Saxon Snell, *Fellows*; Herbert W. Doe, *Associate*.

FRASER: PERCIVAL M. [F.]. Nominated by Henry T. Hare, W. Henry White, Delissa Joseph, C. H. Brodie, Wm. Woodward, Max Clarke, Charles T. Ruthen, *Fellows*.

GILL: CHARLES LOVETT [F.]. Nominated by George Hubbard, A. E. Richardson, Arthur Stratton, S. D. Adshead, *Fellows*; Ernest B. Musman, Stanley C. Ramsey, Harold E. Moss, *Associates*.

GREEN: W. CURTIS [F.]. Nominated by E. Guy Dawber, John W. Simpson, Henry M. Fletcher, W. Alexander Harvey, H. D. Searles-Wood, D. Barclay Niven, J. J. Joass, *Fellows*.

RILEY: WILLIAM E. [F.]. Nominated by Sydney Perks, H. D. Searles-Wood, Arthur Keen, George Hubbard, D. Barclay Niven, W. Alex. Harvey, John W. Simpson, *Fellows*.

SNELL: A. SAXON [F.]. Nominated by Max Clarke, Edwin T. Hall, Wm. Woodward, Wm. H. Atkin-Berry, Sydney Perks, William A. Pite, W. Henry White, *Fellows*.

WHITE: W. HENRY [F.]. Nominated by Sydney Perks, W. Gillbee Scott, Max Clarke, D. Barclay Niven, John Murray, William A. Pite, Wm. Woodward, *Fellows*.

#### Associate-Member of Council.

HIORNS: FREDERICK R. [A.]. Nominated by H. D. Searles-Wood, W. E. Riley, Alfred W. S. Cross, Max Clarke, *Fellows*; Herbert Shepherd, W. Arthur Webb, W. R. Davidge, *Associates*.

#### Literature Committee.

NEWTON: WILLIAM GODFREY, M.A. Oxon, M.C. [A.]. Nominated by John W. Simpson, H. Austen Hall, Ernest Newton, Arthur Keen, Henry M. Fletcher, Godfrey Pinkerton, *Fellows*; Frank W. Knight, *Associate*.

### Attendances at Council and Standing Committee Meetings 1918-19.

#### COUNCIL (21 Meetings).

*Members of Council.*—Henry T. Hare, *President*, 20; Sir John Burnet, *Vice-President*, 0; Walter Cave, *Vice-President*, 13; J. Alfred Gotch, *Vice-President*, 4; Paul Waterhouse, *Vice-President*, 9; E. Guy Dawber, *Hon. Secretary*, 15; S. D. Adshead, 7; Robert Atkinson, 2; T. Edwin Cooper, 6; H. P. Burke Downing, 18; George Hubbard, 14; J. J. Joass, 5; Arthur Keen, 13; H. V. Lanchester, 5; W. R. Lethaby, 3; A. G. R. Mackenzie, 3; D. Barclay Niven, 19; Andrew N. Prentice, 4; H. D. Searles Wood, 19; F. M. Simpson, 7; John W. Simpson, 19; Percy S. Worthington, 1.

*Associate Members.*—P. Abercrombie, 1; Horace Cubitt (on service), 6; W. R. Davidge, 14; L. Rome Guthrie (on service), 1; Herbert Shepherd, 17.

*Representatives of Allied Societies.*—R. Burns Dick, 0; Isaac Taylor, 9; E. Percy Hinde, 10; W. Kaye-Parry, 0; A. F. Watson, 2; Sir Frank W. Wills, 1; W. A. Harvey, 10; S. Perkins Pick, 10; John Keppie, 0.

*Representative of Architectural Association.*—H. M. Fletcher, 16.

#### STANDING COMMITTEES.

*Art* (3 Meetings).—Robert Atkinson, 0; E. Guy Dawber, 0; H. S. East, 2; W. A. Forsyth, 2; J. B. Fulton, 0; J. Alfred Gotch, 0; Sidney K. Greenslade, 0; J. J. Joass, 0; Arthur Keen, 3; J. E. Newberry, 1; Ernest Newton, 0; Harry Redfern, 0; Halsey Ricardo, 1; Charles E. Sayer, 3; G. Gilbert Scott, 0; John W. Simpson, 0; Harry Sirr, 2; Walter Tapper, 1; Sir Aston Webb, 0; W. A. Webb, 2.

*Literature* (6 Meetings).—P. Abercrombie, 0; Louis Ambler, 0; Detmar Blow, 0; Arthur T. Bolton, 1; Sir John Burnet, 0; J. D. Crace, 2; W. J. Davies (deceased), 3; H. M. Fletcher, 5; Theodore Fyfe (on service), 0; F. R. Hiorns, 1; H. G. Ibberson, 3; Brook Kitchin, 0; Stanley C. Ramsey (on service), 1; A. E. Richardson (on service), 0; H. Heathcote Statham, 6; Arthur Stratton, 3; Paul Waterhouse, 0; H. H. Wigglesworth, 6; Leslie Wilkinson, 0.

*Practice* (7 Meetings).—W. H. Atkin-Berry, 6; Max Clarke, 7; H. P. Burke Downing, 0; Percival M. Fraser, 6; George Hubbard, 1; H. V. M. Emerson, 4; C. E. Hutchinson, 1; A. G. R. Mackenzie, 1; John H. Markham, 1; Alan E. Munby, 0; D. Barclay Niven, 6; F. A. Powell, 2; H. A. Satchell, 7; H. A. Saul, 3; J. Douglas Scott, 6; W. Gillbee Scott, 4; A. Saxon Snell, 4; F. W. Troup, 1; W. Henry White, 5; A. Needham Wilson, 0; Wm. Woodward, 5.

*Science* (6 Meetings).—H. Percy Adams, 0; Robert J. Angel, 3; R. Stephen Ayling, 0; H. W. Burrows, 4; Horace Cheston (deceased), 1; A. O. Collard, 5; Alfred Conder, 4; W. E. Vernon Crompton, 3; C. A. Daubney, 4; W. R. Davidge, 0; Bernard Dicksee, 6; J. E. Frank, 1; E. Stanley Hall (on service), 0; Osborn C. Hills, 5; George Hornblower, 1; W. Jacques (deceased), 3; Sydney Perks, 0; Herbert Shepherd, 4; H. D. Searles-Wood, 0; Digby L. Solomon, 2; E. A. Young, 3.

#### Whitgift Hospital, Croydon.

Mr. C. H. Brodie [F.] having called the attention of the Council to what was happening at Croydon, the following correspondence has taken place:—

To the President of the  
Local Government Board,—  
8th April 1919.

SIR,—The Council of the Royal Institute are informed that the Croydon Town Council have in contemplation the demolition for the purpose of a street-widening scheme of the charming old sixteenth century building known as the Whitgift Hospital at Croydon. On two occasions during the past sixteen years the building has been threatened, but has been saved by the timely intervention of those whose concern it is to preserve these interesting relics of the past. In 1909 the building was saved through the action of the Local Government Board, who refused a loan for the carrying out of a scheme of road widening which would have involved the destruction of the building.

I am to point out that these old buildings form a veritable treasure of art; hall, chapel and dormitories possess a character of their own which once destroyed can never be replaced. With the exception of the old church and the remains of the Archbishop's Palace, Croydon has scarcely anything left to remind it of the past. The Council



earnestly trust that the policy of the Board with regard to this building will be maintained, and that the destruction of a building possessing such architectural and historic interest will be prevented.

I am venturing to enclose herewith an extract from the Institute JOURNAL of November 1909, showing how the street-widening could be effected without any interference at all to the hospital and result in an infinitely better town improvement than would be brought about by the adoption of the Croydon Council's scheme.

I am, Sir, Your obedient Servant,  
G. NORTHOVER, *Acting Secretary.*

The following reply was received from the Local Government Board:—

25th April 1919.

SIR,—I am directed by the President of the Local Government Board to advert to your letter of the 8th instant, and to state that no definite proposal involving interference with the above building is at present before this Board.

In the event of any such proposal being submitted by the Town Council of Croydon, the views of the Council of the Royal Institute of British Architects will be carefully considered.

I am, Sir, Your obedient Servant,  
A. J. A. BALL, *for Assistant Secretary.*

On behalf of the Royal Commission on Historical Monuments, Mr. G. H. Duckworth, wrote to a Croydon resident on the 13th January 1910:—

"Lord Burghclere asks me to tell you on behalf of this Commission that the Hospital will certainly be scheduled amongst those monuments in Surrey most worthy of preservation as soon as the time comes for the County in question to be brought under the special purview of the Commission."

#### The Government and Private Building.

An official statement has been issued to the effect that the impression which appears to prevail in many quarters that the Government has requisitioned building materials in connection with housing schemes to such an extent as to render it impossible for private orders to be placed is incorrect.

The Government, it is stated, is anxious not only to do nothing to hamper the building industry, but to encourage it as much as possible. Orders have been placed by the Government with brickmakers throughout the kingdom for about 800 million bricks. These orders do not by any means exhaust the total capacities of the yards. In a good many cases it is true that the Government has bought the total output of the yards, but this has been done to keep the makers in funds and not to earmark the bricks for the housing scheme. Permission is given freely to the makers enabling them to dispose of Government stocks for all purposes.

What applies to bricks applies also, it is added, to other building material. There is, therefore, no need to refrain from starting on building operations on the ground that the necessary material will not be forthcoming. Any further information required in the foregoing matters can be obtained on application from

the Director of Building Materials Supply, Caxton House, Tothill Street, London, S.W.1.

The Ministry of Munitions announce that Colonel H. C. Cole, C.B.E., F.S.I., has been appointed Controller of the Huts and Building Materials Section of the Surplus Government Property Disposal Board. All inquiries regarding the purchase of huts and building materials should be addressed to the Controller, as above, Artillery Mansions, Victoria Street, London, S.W.1.

#### Local Government Board's Housing Manual.

A *Manual on the Preparation of State-Aided Housing Schemes* has been issued by the Local Government Board, which, though primarily prepared for the guidance of local authorities, should be in the hands of all engaged in carrying out housing for the working classes, whether official or private undertakings. An introductory Memorandum summarises the general recommendations of the Board as to the development of housing schemes, and this is followed by a number of appendices dealing with particular questions in detail. The material for the appendices, which include the treatment of sites, the setting out of roads and drainage, and a description of recommended types of houses, is mainly drawn from the Building Construction Committee's (Tudor Walters) Report, but various amplifications have been made. A series of twenty-one plates illustrates "suggested house plans," and in regard to these it is wisely emphasised in the Memorandum, as well as in a circular letter addressed by the Board to local authorities, that they are only "for general guidance and are not intended to hamper initiative, or to prevent full expression being given to local customs and traditions, or to the use of local building materials." In treating of house design it is to be noted that the Board stipulates in its first clause that "competent architects should be employed to plan and design the houses to be erected. These will be in possession of the information embodied in the Building Construction Committee's Report and the Reports of the Women's Housing Sub-Committee... as well as that acquired by their own experience, and they should be acquainted with the mode of life and requirements of the people for whom housing provision is to be made." The manual is to be obtained from H.M. Stationery Office, 28 Abingdon Street, S.W., price 2s. 6d. net.

#### Antiquities of the Near East.

Sir F. G. Kenyon, Director and Principal Librarian, British Museum, President of the British Academy and Chairman of the Archaeological Joint Committee, writes to *The Times* of 6 May regarding the preservation of antiquities in the countries in the Near East opened up as a result of the war:—

In December 1918 the Foreign Office invited the British Academy to form, in conjunction with the leading archaeological societies of England, a joint committee, to deliberate on matters connected with the antiquities of the countries which have been or will be opened up as a result

of the war. It was considered urgent that some attempt should be made to organise the preservation of antiquities in territories such as Mesopotamia, Palestine, Syria, Asia Minor, Armenia, and Macedonia, and to gain international acceptance for certain principles of legislation for the administration of archaeology in these areas. Much work has been done by the committee in these and other directions, and much more remains to be done. The immediate object of this letter is to indicate a way in which those who have served in the Eastern campaigns can assist the objects of the committee. One of the tasks which it has set itself is the collection of records of all kinds of antiquities from the above-mentioned countries. Under antiquities we include ancient sites and buildings as well as portable objects; and by records we mean photographs (not necessarily on a large scale or of professional quality), drawings, plans, and rubbings or impressions or other copies of inscriptions. Only the trained archaeologist realises what important information can sometimes be gathered from such records, however imperfect. Any records sent to the committee will, after examination by experts, either be returned to the owners, if desired, or deposited in the keeping of societies, such as the Hellenic Society or the Royal Institute of British Architects, where they will be accessible for study.

All communications should be addressed to Mr. G. F. Hill, hon. secretary, Archaeological Joint Committee, British Museum, London, W.C.1, who will also be glad to give advice as to the Departments from which information about actual antiquities may be obtained.

#### Architects' Assistants' Professional Union.

The first meeting of the Architects' Assistants' Professional Union was held on 29th April for the purpose of extending the movement for the formation of a union for salaried architects, quantity surveyors, draughtsmen and technical assistants. Mr. John Sarvas [*Licentiate*] presided. The stated intention of the union is to secure: (1) The improvement of the status of the professional assistant; (2) the efficiency and training of professional men; (3) adequate salaries and payment for overtime; (4) open references; (5) abolition of unpaid assistants; (6) representation of assistants on professional bodies; (7) the encouragement of a feeling of co-operation between the practising architect and his assistants for the mutual benefit of both. In constituting the union it is proposed to have an executive council elected at a general meeting, which council should consist of fifteen members, two of whom would be elected by the probationary members. The President would be elected from the committee and by them, and would hold office for one year. Sub-committees would be elected by the general committee to deal with specific subjects, and their reports would be referred to the general committee for approval. Two hon. secretaries and the treasurer would be elected by the general meeting. A full member must be an assistant on work governed by the scales of the R.I.B.A. or M.S.A. at the time of application for membership, or must have had five years' experience and such technical training as might be approved by the Committee. The subscription for members would be 10s. per annum, and for probationary members 2s. 6d. per annum.

Those interested in this movement are asked to communicate with the Secretary at 35, Bedford Square, W.C., who will furnish any further information required and will enrol members.

#### Conference on the Condition of the Building Industry, Tuesday, 20th May, 1919, at 10.30.

The attention of Members is called to the time-table of the Conference, published under "Notices," on page 168 of this issue.

The Conference will be formally opened in the Galleries of the Royal Institute, by the Right Hon. Dr. C. Addison, President of the Local Government Board. The Chair will then be taken by Mr. Henry T. Hare, President R.I.B.A.

Papers will be read by Major Harry Barnes, M.P. [*F.*], Mr. Paul Waterhouse, F.S.A. [*F.*], Mr. A. A. Hudson, K.C. [*Hon. A.*], Mr. Harry Gill, representing the Society of Architects, Mr. F. H. A. Hardcastle [*A.*], representing the Surveyors' Institution; Mr. F. L. Dove, President of the National Federation of Building Trades Employers; Mr. Edmond J. Hill, President of the Institute of Builders; Mr. J. P. Lloyd and Mr. J. Murray, President and Secretary respectively of the National Federation of Building Trades Operatives.

The subjects of the Papers are as follows:

- Causes of the Present Abnormal Cost of Building and Inactivity in the Trade.
- The Present and Future Effects of Government Housing Schemes on Prices and Employment.
- The Competitive Contract System, should it be retained, abolished or modified?
- Processes and Organisation for Reducing Time and Cost of Construction.
- The Mutual Relations of the Architect, Builder, and Workman.
- The Influence on Building of the Finance Act 1910.

## REVIEWS.

### ENGLISH CHURCH WOODWORK.

*English Church Woodwork. A Study in Craftsmanship during the Medieval Period A.D. 1250-1550. By F. E. Howard and F. H. Crossley. 4s. Lond. 1917. [B. F. Batsford, 94 High Holborn, W.C.]*

The authors give a clear and interesting account of the development of woodcarving in the period between the close of the XIIIth and beginning of the XVIth century, showing the stone arcade to be the usual inspiring motive in the earlier examples.

They lay great stress on the fact that each district has its own type—its own modifications of the national style: and they—very rightly—condemn those architects who falsify or contradict such traditions, since these traditions of local type must necessarily be maintained, not merely from a punctilious sense of correctness or "fussy antiquarianism," but to ensure consistency of effect and harmony of proportion with the setting of the work and its architectural surroundings. Modern architects have often failed grievously to observe this rule.

Colour decoration is thoroughly dealt with. The writers show clearly the old methods. With these, the modern ones contrast unfavourably. Again, in colouring there is the local school to be considered, and this is natural enough, since the different arrangement of the mouldings requires a correspondingly different placing of the colours.

Under the heading of "Structural Woodwork," timber porches, doors, and roofs are adequately explained both in the text and by a number of well-selected illustrations. These are most useful, as they not only portray beautiful designs, but also demonstrate interesting points of construction.

The chapter on the fittings of the Sanctuary shows that our authors have considerable knowledge—more so, in fact, than is betrayed by most writers on this subject. Their knowledge is that which is gained by study of the ancient chancels, and is thus based on fact and not on argument built on personal preferences.

The pictures of the Quire-stalls offer a final answer to all, if there be any, who would doubt the glory of the fully developed English tradition in woodcraft. So also are those showing the Bishop's thrones, the two examples especially mentioned being those at Exeter and St. David's. Of lecterns, the writers point out, there are two kinds; the one for the reading of the scriptures and the other for singing. The latter has a much more steeply sloping face for the book.

There is much attention given to Screenwork as a leading feature in the determining of style, and the reader will find many excellent photographs showing the characteristic differences found in the various localities. Several drawings are included—some to scale—of bench-ends, and we would especially note the fine series at Crowcombe. There are also many photographs in this section.

In the old days it was customary to shew much honour not only to the Altar but also to the Font—both being suggestive of the principal sacraments. The Font, so apt to look comparatively squat, was covered by a tower-like canopy, sometimes almost reaching the roof of the church—a mass of delicate and intricate tracery and pinnacles. Perhaps Ufford in Suffolk supplies the most beautiful example. Of this, a scale drawing is given. It has fallen to our lot to read many books dealing with some or all of the above-mentioned subjects, but it is probable that the section on font-covers in this work is more full and detailed than elsewhere to be found.

Considering the wide range of the work surveyed, the work may be commended for its thoroughness, and of Mr. Crossley's photographs it would be difficult to speak too highly. FRED. BLIGH BOND.

## LEGAL.

### Reversion Duty under the Finance (1909-10) Act, 1910. ECCLESIASTICAL COMMISSIONERS FOR ENGLAND v. INLAND REVENUE COMMISSIONERS.

An important case affecting the question of Reversion Duty payable under the Finance (1909-10) Act, 1910, was decided in the Court of Appeal on the 18th March, resulting in a decision against the Inland Revenue Commissioners. The facts of the case, as summarised by Mr. Justice Lush in the King's Bench Division, are as follows:—

The Ecclesiastical Commissioners were the owners of certain freehold property in Strutton-ground, Westminster. On 28th June 1907, they entered into a building agreement with intending lessees for improving the value of the property, by which the lessees undertook to pull down the existing buildings and to erect new ones, and to spend on the work not less than £3,000. The work being completed to their surveyor's satisfaction, the Ecclesiastical Commissioners agreed to grant a lease, or several leases, of the property for 80 years from 14th June 1907, at a total rent of £40 for the first year and £160 for every succeeding year. The agreement was not to operate as a lease. The work was done and the buildings duly erected, four leases being granted of the several plots and buildings for the agreed terms. In the case of No. 26, Strutton-ground, regarded as the material lease for the present case, the lessees spent £900 on the work, and, as they were builders, they were allowed to add an agreed profit of £150, making £1,050 agreed expenditure in all. The rent payable under the lease which was granted on 19th December 1907 was £10 for the first year and £40 afterwards. The lessees underlet the premises, consisting of a shop and dwelling-house, for 21 years, determinable at the end of the seventh and fourteenth years, at the rent of £130. That underlease was surrendered, and on 1st February 1913 the assignee of the lease of 1907 surrendered his term to the Commissioners from 25th December 1912. A new agreement was entered into, but nothing turned upon that, the question to be decided being what was the principle to be applied in order to ascertain the true value of the benefit accruing to the Commissioners through the determination of the lease under section 13 (2) of the Finance (1909-10) Act (10 Edw. VII., c. 8) section 13 (2) and section 3 (2) of the Revenue Act, 1911.

The Ecclesiastical Commissioners submitted that in determining the property value at the date when the lease was granted the total sum expended in building must be added to the capitalized rent. The Crown contended that this method of calculation was erroneous, and that only the present value to the reversioners of the sum so expended at the time of granting the lease, the enjoyment being deferred for the term of the lease, should be taken into consideration.

The Ecclesiastical Commissioners' method of valuing the benefit accruing to them in the present case gave the sum of £168, arrived at, as stated in the report in [1918] 2 K.B., p. 605, as follows:—

	Per ann.
Rent reserved ... ..	£40
Payments made, cost to builder of erection of buildings ... ..	£900
Builder's reasonable profit ... ..	150
Normal cost to lessee ... ..	£1,050
Reasonable rate of interest which lessee would expect on such a property in this position, 8 per cent. ...	84
Annual value which lessee would expect at 18 years' purchase ... ..	£124
Total value at grant of lease ... ..	£2,232
Total value at termination (as agreed) ... ..	£2,400
Total value at grant (as above) ... ..	2,232
Difference ... ..	£168

The Inland Revenue Commissioners contended that "the value of the benefit accruing to the lessor" by the determination of the lease was £1,378. This figure is arrived at as follows [1918] 2 K.B., at p. 607):—

Agreed total value at determination of lease ...	£2,400
Total value at original grant of lease. Rent reserved, £40; years' purchase, 25 ...	£1,000
Payments made, cost of building, including reasonable profit, £1,050 ...	£22
Deferred 80 years on the 5 per cent. table ...	£1,022
Benefit ... ..	£1,378

In allowing the appeal, the Master of the Rolls said that the assessment should be discharged, and it should be declared that the value of the benefit accruing to the Ecclesiastical Commissioners should be calculated in the manner contended for by them. A full report of the case will appear in *The Times* Law Reports.

Counsel engaged in the case were: Mr. Upjohn, K.C., Mr. Ryde, K.C., Mr. Barrington Ward, and Mr. Allen for the Appellants; and the Attorney-General and Mr. Sheldon for the Crown.

## MINUTES.

At the Twelfth General Meeting (Ordinary) of the Session 1918-19, held Monday, 28th April 1919, at 8 p.m.—Present: Mr. H. D. Searles-Wood (F.) in the Chair; 12 Fellows (including 2 members of the Council), 11 Associates, 4 Licentiates and several visitors—the Minutes of the Meeting held 14th April were taken as read and signed as correct.

The decease was announced of the following members: William Jacques, elected Associate 1880; Walter Ernest Hewitt, elected Associate 1892; Archibald Neil Campbell, elected Associate 1904; Matthew George Martinson, elected Licentiate 1910; Hugh Vaughan, elected Licentiate 1911.

On the motion of the Chairman, it was resolved that the very hearty congratulations of the Institute be conveyed to Mr. Ernest Newton, Past President, on his election as Royal Academician.

Sir Frank Baines, K.B.E., M.V.O., read the conclusion of his Paper on "War Factories and Sheds, and Their Adaptation to Future Needs" (adjoined from the 17th March), and illustrated it by lantern slides.

On the motion of Mr. Percival M. Fraser (F.), seconded by Mr. W. J. H. Leverton, Licentiate, a vote of thanks to the author of the Paper was carried by acclamation.

Sir Frank Baines responded and answered questions raised during the discussion.

The meeting terminated at 10.40 p.m.

At the Eighty-fifth Annual General Meeting (being the Thirteenth General Meeting of the Session 1918-19) held Monday, 5th May 1919, at 8 p.m.—Present: Mr. Henry T. Hare, President, in the Chair; 16 Fellows (including 4 members of the Council), 12 Associates (including 2 members of the Council), 1 Hon. Associate, and 3 Licentiates—the Minutes of the meeting held 28th April were taken as read and signed as correct.

Mr. Walter Cave, Vice-President, acting in the absence of the Hon. Secretary, announced the decease of the following members: William Neville Ashbee, elected Associate 1881, Fellow 1890; Cyril H. Montagu Jones, elected Associate 1911; Joseph Dixon White, elected Licentiate 1911.

The following Associates attending for the first time since their election were formally admitted by the President: William James Leahy and William Harkess.

The Annual Report for the official year 1918-19 was presented and its adoption formally moved by the President.

Mr. Walter Cave having seconded the motion the report was discussed by the following members: Mr. Wm. Woodward (F.), Mr. John Slater (F.), Mr. W. Henry White (F.), Mr. Max Clarke (F.), Mr. Percival Fraser (F.), Mr. C. H. Brodie (F.), Mr. Delissa Joseph (F.), Mr. W. S. Tucker (A.), Mr. Scott Cockrill (A.), and Mr. W. R. Davidge (A.).

The President having replied to points raised in the discussion the motion was put to the vote and it was

Resolved, unanimously, that the Annual Report for the official year 1918-19 be adopted.

The President called attention to the Lists of Attendances at the Council and Standing Committee meetings held during the Session which were laid upon the table.

On the motion of the President the thanks of the Institute

were accorded by acclamation to the Hon. Auditors, Mr. Henry A. Saul (F.) and Mr. H. S. East (A.). Mr. Harold Goslett (F.) and Mr. C. E. Hutchinson (A.) were nominated Auditors for the ensuing year.

The President announced that the Adjourned General Meeting for the consideration of the Revised Scale of Charges would be held on Monday, 12th May.

The proceedings closed and the meeting separated at 9.40 p.m.

## COMPETITIONS.

The R.I.B.A. Competitions Committee warn members against taking part in limited competitions which involve the spending of public money where the conditions do not accord with the R.I.B.A. Regulations for Architectural Competitions. The Committee consider it to be the duty of members, in the interests of the profession, to forward to the Secretary R.I.B.A. in such cases a copy of the conditions without delay so that action may be taken to get irregular conditions put into proper order.

### Ruislip Housing Competition.

The R.I.B.A. Competitions Committee request architects who have been invited to compete in the above competition to withhold work upon their designs until the conditions have been brought into conformity with the R.I.B.A. Regulations for Architectural Competitions.

### Candidates for Election at Meeting of 2nd June,

#### AS FELLOWS [19].

ADAMS: PERCY HENRY (A., 1895), 32 Craven Street, W.C.2. and "Mathousa," Warrington, Surrey.—Proposers: Osborn C. Hills, Arthur Ashbridge, And. N. Prentice.

ALLISON: RICHARD JOHN, O.B.E. (A., 1904), H.M. Office of Works, Storey's Gate, S.W.1, and 63 Hornsey Lane, Highgate, N.6.—Proposers: Sir Henry Tanner, K.C.B., Walter Pott, O.B.E., J. Dixon Butler.

BRIDGES: EDWARD, JAMES (A., 1888), Lieut.-Colonel S.R.E.S., Headquarters R.E., 12 Wilton Road, Salisbury, and 33 Fowler's Road, Salisbury.—Proposers: The Council.

BRIGGS: MARTIN SHAW (A., 1905), 16 Brockenhurst Gardens, Mill Hill, N.W.—Proposers: Sydney D. Kitson, John Coleridge, Horace Farquharson.

BUNNEY: MICHAEL, M.B.E. (A., 1906), 33 Henrietta Street, W.C.2, and "Windhill," Meadway, N.W.4.—Proposers: Horace Field, E. Guy Dawber, Frank J. Potter.

CHESTON: JOHN ALLFORD (A., 1912), 3 Tudor Street, New Bridge Street, E.C., and "Hampton Lea," Langley Park Road, Sutton, Surrey.—Proposers: Sir Alex. R. Stenning, William E. Clifton, W. Campbell Jones.

COMYN: HEATON (A., 1900), 28 Austin Friars, E.C., and Hill Cottage, Orpington, Kent.—Proposers: Arthur Keen, Ernest Newton, R.A., F. M. Simpson.

FRANCK: JAMES ERNEST (A., 1900), 42 Russell Road, W.14.—Proposers: H. D. Searles-Wood, Ernest Newton, R.A.; Sir Reginald Blomfield, R.A.

GIBBONS: JOHN HAROLD, M.C. (A., 1902), 4 St. Mary's Parsonage, Manchester, and 14 Birch Grove, Rusholme.—Proposers: Sir Reginald Blomfield, R.A., Temple Moore, Jno. Gibbons.



- HALL: EDWIN STANLEY, M.A. Oxon [A., 1911], 54 Bedford Square, W.C.—*Proposers*: E. Guy Dawber, Sir Aston Webb, P.R.A., Sir Reginald Blomfield, R.A.
- HATHAWAY: PERCY WILLIAM [A., 1911], Town Hall, Rochdale, and 8 Harridge Street, Healey, Rochdale.—*Proposers*: Wm. H. Duncan, S. B. Russell, Raymond Unwin.
- HINCHLIFFE: PERCY ARCHIBALD [A., 1905], 14 Regent Street, Barnsley, and Wilcliffe, Victoria Street, Barnsley.—*Proposers*: Henry Perkin, J. Wreghitt Cannon, William H. Thorp.
- HOBDAY: WILLIAM HERBERT [A., 1902], 62 Moorgate Street, E.C.4., and 196 Upper Clapton Road, E.5.—*Proposers*: Owen C. Little, Harry Redfern, J. Craddock Perkin.
- MOORE: ARTHUR HENRY [A., 1892], 11 Dowgate Hill, Cannon Street, E.C.4., and Poyntell, Romford, Essex.—*Proposers*: James S. Gibson, William Dunn, S. D. Adshead.
- MYERS: NORMAN TOLLER [A., 1907], 12 New Court, Lincoln's Inn, W.C., and Hillcroft, Hills Road, Cambridge.—*Proposers*: Reginald H. Spalding, J. A. Gotch, Arthur Keen.
- SIMPSON: WILLIAM BEGG [Licentiate, recently passed the Qualifying Examination], 61 South Molton Street, W.1, and Little Pipers, Clay Hill, Enfield.—*Proposers*: Edmund Wimperis, James S. Gibson, Herbert Read.
- TOWSE: STANLEY [A., 1903], 9 Newcomen Street, S.E., and The Old Cottage, Tylers Green, Hayward's Heath.—*Proposers*: E. Vincent Harris, Leonard Stokes, C. H. B. Quennell.
- WARD: WILLIAM HENRY, M.A. Cantab., F.S.A. [A., 1893], 2 Bedford Square, W.C.1.—*Proposers*: John W. Simpson, Edward Warren, and the Council.
- WATSON: WILLIAM ERNEST [A., 1905], F.S.I., F.R.San.I., No. 1 Western General Hospital, Liverpool.—*Proposers*: W. D. Caröe, Sir John J. Burnet, and the Council.
- AS ASSOCIATES [165].
- [The candidates are, or have been, serving with His Majesty's Forces, and, being Students and duly qualified, have availed themselves of the concessions granted to Students so serving (see Special Regulations, JOURNAL for March 1918.)]
- ARCHER: HOWARD DENNES [S., 1914], Sorrelsykes Park, Leyburn, Yorks.—*Proposers*: The Council.
- ARNOLD: RAYMOND CHARLES [S., 1912], 49 Thorold Road, Ilford, Essex.—*Proposers*: Sidney K. Greenslade, A. Dunbar Smith, E. Vincent Harris.
- ASHTON: ARTHUR, P.A.S.I. [S., 1907], Clifton Chambers, Wood Street, St. Anne's-on-Sea.—*Proposers*: Banister Fletcher, Chas. J. Dawson, W. Alexander Harvey.
- ATCHISON: HAROLD PERCY REYNOLDS [S., 1912], 38 Filey Street, Sheffield.—*Proposers*: F. E. Pearce Edwards, Ernest Newton, R.A., S. D. Adshead.
- BANKS: WILLIAM ARTHUR [S., 1911], Conway Terrace, 149 Corporation Street, Stafford.—*Proposers*: Banister Fletcher, Joseph Crouch, Leonard V. Hunt.
- BANNISTER: HARRY [S., 1915], 17 Ongar Road, Lillie Road, Fulham, S.W.6.—*Proposers*: Arthur Keen, Ernest Newton, R.A., T. Elwin Cooper.
- BARLEY: FRANCIS ALFRED [S., 1913], 10 Canewdon Road, Westcliff-on-Sea, Essex.—*Proposers*: Sir Charles A. Nicholson and the Council.
- BATES: CYRIL FRANCIS [S., 1912], 30 Commercial Street, Newport, Mon.—*Proposers*: Chas. P. Ward, Mervyn E. Macartney, E. Guy Dawber.
- BATTY: WILLIAM ARNOLD, M.C. [S., 1910], Hillside, Ben Rhydding, Leeds.—*Proposers*: C. H. Reilly, T. Elwin Cooper, Frank G. Briggs.
- BEAVERSTOCK: HORACE [S., 1914], "Beach Dene," Newstead Grove, Nottingham.—*Proposers*: A. Ernest Heazell, Ernest R. Sutton, Albert Bromley.
- BENJAMIN: HORACE BERTON [S., 1906], 18 Priory Road, Acton Green, Chiswick.—*Proposers*: The Council.
- BESTOW: SIDNEY FRANCIS [S., 1913], 18 Market Street, Newcastle-on-Tyne.—*Proposers*: Charles S. Errington, R. Burns Dick, J. T. Cackett.
- BISIKER: ARTHUR MILTON [S., 1913], 60 Crouch Hall Road, N.8.—*Proposers*: W. R. Jaggard and the Council.
- BLACKMORE: ALFRED CHARLES [S., 1908], Westfield, Cardigan Road, Bridlington, Yorks.—*Proposers*: The Council.
- BONSER: KENNETH JOHN [S., 1913], Kinoulton, Brunswick Road, Sutton, Surrey.—*Proposers*: H. D. Searles-Wood, Arthur Keen, J. W. Stanley Burmester.
- BRACEWELL: ARTHUR [S., 1905], Willowbank, Keighley.—*Proposers*: Beresford Pite and the Council.
- BREWILL: LIONEL COLIN [S., 1912], Edwalton, Notts.—*Proposers*: Arthur W. Brewill, Albert Nelson Bromley, E. A. Rickards.
- BRIDGE: THOMAS MOSS [S., 1914], 31 Park Road, Walkden, Lancs.—*Proposers*: The Council.
- BROWN: JOHN, D.L., D.S.O. [S., 1900], 80 Abington Street, Northampton.—*Proposers*: J. W. Fisher, W. Talbot Brown, J. A. Gotch.
- BROWN: JAMES McLELLAN [S., 1913], City Engineer's Office, Dundee.—*Proposers*: James Lockhead, John Wilson, James Thomson.
- BRUETON: BERTRAND FREDERICK [S., 1912], 6a Peterborough Villas, New King's Road, S.W.8.—*Proposers*: S. D. Adshead, Raymond Unwin, Sidney Perks.
- BURFORD: JAMES [S., 1916], 16 Tregunter Road, S. Kensington, W.10.—*Proposers*: Robert Atkinson, Charles E. Varndell, H. D. Searles-Wood.
- BUTCHER: ALBERT JOHN [S., 1912], Hazlemere, Central Avenue, Stoke Park, Coventry.—*Proposers*: The Council.
- BUTTERWORTH: HAROLD, M.A. [S., 1917], Somerset Buildings, 19 Brazenose Street, Manchester.—*Proposers*: Paul Ogden, Isaac Taylor, Edward Hewitt.
- CAMPBELL: DUNCAN ALEXANDER [S., 1906], 51 North John Street, Liverpool.—*Proposers*: Arnold Thornely, Hastwell Grayson, Frank G. Briggs.
- CAWKWELL: ROBERT [S., 1913], 1 Standon Road, Wincobank, Sheffield.—*Proposers*: The Council.
- CHARLEWOOD: GEORGE EDWARD [S., 1910], 4 Mosley Street, Newcastle-on-Tyne.—*Proposers*: Charles S. Errington, R. Burns Dick, G. H. Fellowes Prynne.
- CHEADLE: JOHN OSCAR [S., 1911], 2 New Square, Lincoln's Inn, W.C.—*Proposers*: Sir Charles A. Nicholson, Beresford Pite, Hubert C. Corlette.
- CHEERTON: WILLIAM GEORGE LLOYD [S., 1913], 20 Mount Ephraim Lane, Streatham, S.W.16.—*Proposers*: The Council.
- CHURCH: LESLIE DONALD ALGAR [S., 1913], "The Homestead," High Road, Epping, Essex.—*Proposers*: W. Gillbee Scott and the Council.
- CLARKE: JAMES ANDREW [S., 1911], 354 Waterloo Road, Cheetham Hill, Manchester.—*Proposers*: Isaac Taylor, Francis Jones, Percy S. Worthington.
- CLARKSON: GEORGE FLINT [S., 1909], 43 Holland Road, Kensington, W.14.—*Proposers*: A. Dunbar Smith, Sidney K. Greenslade, W. T. Walker.
- CLAYTON: GERALD RUPERT [S., 1915], 2 Oozehead Lane, Blackburn.—*Proposers*: The Council.
- COLE: EDWARD ROBINSON FERDINAND [S., 1914], 83 Bankhall Street, Bootle, Liverpool.—*Proposers*: C. H. Reilly, Hastwell Grayson, E. Percy Hinde.
- COOPER: FREDERIC ROLAND [S., 1908], "Southdene," Headlands, Kettering.—*Proposers*: Albert E. Sawday, J. A. Gotch and the Council.
- COPPLESTONE: THOMAS STAPLETON [S., 1911], 142 Cavendish Road, Clapham Common, S.W.12.—*Proposers*: Alfred Cox, J. S. Alder, Frank E. Smee.

- COULDBREY: WALTER NORMAN [S., 1906], 19 Palace Avenue, Paignton, Devon.—*Proposers*: B. Priestley Shires, H. Lionel Thornely, J. A. Lucas.
- CROSSLAND: HARRY EWART [S., 1912], Woodleigh, Station Road, Sutton-in-Ashfield, Notts.—*Proposers*: Louis A. Westwick, A. Ernest Heazell, Ernest R. Sutton.
- CRUTCHLEY: FREDERICK ERNEST [S., 1908], 10 Queen's Grove Road, Chingford, Essex.—*Proposers*: Edmund Wimperis, T. T. Rees, C. H. Reilly.
- DAVIES: EDWARD CECIL [S., 1913], Abbotsford, Brambletye Park, Redhill, Surrey.—*Proposers*: T. Edwin Cooper, R. Atkinson, J. J. Joass.
- DONALDSON: BENJAMIN [S., 1911], 18 Windsor Avenue, Gosforth, Northumberland.—*Proposers*: R. Burns Dick, J. T. Cackett, Joseph Oswald.
- DOUGILL: WRSLEY [S., 1913], Aysgarth, Wensleydale, Yorks.—*Proposers*: The Council.
- DYSON: ERNEST VINCENT [S., 1913], 4 Chapel Lane, Headingley, Leeds.—*Proposers*: Sydney D. Kitson, William H. Thorp, H. S. Chorley.
- ELIOART: RONALD EDWARD [S., 1912], 17 Elsworth Road, N.W.3.—*Proposers*: Henry T. Hare, C. Wontner Smith and the Council.
- ELSTON: JAMES [S., 1910], 227 Field Coy. R.E., B.E.F.—*Proposers*: The Council.
- ELSWORTH: LANCELOT ANDREW [S., 1912], 41 Rotherwick Road, Golder's Green, N.W.4.—*Proposers*: Sir Aston Webb, P.R.A., Raymond Unwin and the Council.
- FARRER: JOHN CAMPLIN [S., 1912], 19 Crescent Road, Crouch End, N.8.—*Proposers*: Harold Bailey, Ernest Flint, George Elkington.
- FIRTH: JOSEPH PERCY [S., 1904], 12 Westfield Grove, Wakefield.—*Proposers*: H. S. Chorley, William H. Thorp and the Council.
- FISHER: KENNETH JOHN [S., 1914], Officers' Hospital, Llangammarch Wells, Brecon, Wales.—*Proposers*: H. S. Chorley and the Council.
- FOOTE: ALEXANDER ALLAN [S., 1913], 92 Warrender Park Road, Edinburgh.—*Proposers*: J. C. Wynnes, John Watson, W. T. Oldrieve.
- FOSTER: WILLIAM SYDNEY [S., 1912], 40 Broom Grove, Rotherham.—*Proposers*: Sir W. Alfred Gelder, W. S. Walker, L. Kitchen.
- FOSTER-TURNER: FREDERICK WENTWORTH [S., 1914], "Pevensey," Bury Farm Estate, Edmonton; N.9.—*Proposers*: Arthur W. Cooksey and the Council.
- GARRARD: CYRIL PROCTOR [S., 1913], 38 Westgate Street, Ipswich.—*Proposers*: The Council.
- GIBBONS: JOSEPH GEORGE [S., 1908], 106 Oak Tree Lane, Selly Oak, Birmingham.—*Proposers*: Alfred J. Dunn, Joseph Crouch, R. Savage.
- GISBY: ERNEST WILLIAM [S., 1910], 13 Meyrick Road, Stafford.—*Proposers*: The Council.
- GOSSLING: HUGH FOLEY [S., 1919], Annandale, 15 Birdhurst Road, Croydon.—*Proposers*: The Council.
- GRELLIER: CECIL [S., 1913], St. Martin's Croft, Epsom.—*Proposers*: H. P. G. Maule, Horace Field, William Grellier.
- HAGUE: HORACE VINCENT [S., 1909], 4 Cheapside, Derby.—*Proposers*: George H. Widdows and the Council.
- HALL: ROBERT BRERLEY [S., 1916], 320 Norton Way, Letchworth. (Passed Final Examination 1916.)—*Proposers*: The Council.
- HARDY: THOMAS CHARLES [S., 1915], 15 Carmichael Place, Langside, Glasgow.—*Proposers*: James Miller, John Watson, David Salmon.
- HARRISON: AUSTEN ST. BARBE [S., 1914], Amery, Beckenham, Kent.—*Proposers*: F. M. Simpson, E. Guy Dawber, H. D. Searles Wood.
- HART: EDMUND JOHN [S., 1911], 9 Bank Street, Salford, Manchester.—*Proposers*: Herbert H. Brown, Isaac Taylor, Paul Ogden.
- HEYWOOD: LEONARD [S., 1914], 200 Chorley Old Road, Bolton, Lancs.—*Proposers*: John Bradshaw Gass, Arthur J. Hope, Joseph Pilling.
- HIGGS: HAROLD JOHN [S., 1910], Goring-on-Thames, Oxon.—*Proposers*: W. Roland Howell, Arnold Mitchell and the Council.
- HIGSON: HERBERT WALTER [S., 1906], 21 Wood Street, Bolton.—*Proposers*: John Bradshaw Gass, Jon. Simpson, Joseph Pilling.
- HILL: GEORGE NOEL [S., 1913], 4 Buckingham Road, Wallasey, Cheshire.—*Proposers*: Arnold Thornely, Frank G. Briggs, T. Taliesin Rees.
- HONEYMAN: JAMES MACLAREN [S., 1915], Invermark, Castle Road, Cathcart, Glasgow.—*Proposers*: H. E. Clifford, John Watson, David Salmon.
- HOOPER: ARNOLD FIELDER [S., 1913], Kelsey Corner, Beckenham, Kent.—*Proposers*: Sir Aston Webb, P.R.A., Leonard Stokes, Henry T. Hare.
- HOOPER: CHARLES OWEN [S., 1909], Holmwood, Hill Lane, Southampton.—*Proposers*: James Lemon and the Council.
- HOPKINS: WILFRID WALTER [S., 1915], 52 Teviot Street, South Bromley, London.—*Proposers*: J. C. Perkin and the Council.
- HOWE: JOHN LIBERTY [S., 1912], "Faringford," Northwood, Middlesex.—*Proposers*: H. P. G. Maule, W. A. Forsyth, Robert Atkinson.
- HOWE: WILFRED [S., 1908], 121 Upperthorpe Road, Sheffield.—*Proposers*: Henry Perkin and the Council.
- INGHAM: WALTER [S., 1910], County Hall, Beverley, E. Yorks.—*Proposers*: George H. Widdows, R. S. Jacobs, L. Kitchen.
- IRVING: DAVID WISHART [S., 1909], 11 Chambers Road, Southport.—*Proposers*: The Council.
- JENKINS: HERBERT LLOYD [S., 1908], 97 Breakspeare Road, Brockley, S.E.4.—*Proposers*: Walter Pott, A. Alfred Cox, Geo. McLean Ford.
- JENNER: THOMAS GORDON [S., 1909], 13 Grosvenor Place, Margate.—*Proposers*: George H. Widdows and the Council.
- JOHNSON: ARTHUR GERALD [S., 1913], 35 Cambridge Road, Wanstead, E.11.—*Proposers*: Robert Atkinson, Henry M. Fletcher, Herbert Wigglesworth.
- JONES: CHARLES FREDERICK [S., 1914], 9 Howard Gardens, Cardiff.—*Proposers*: Harry Teather, Lennox Robertson, George Halliday.
- JONES: NEVILLE WYNNE [S., 1914], 33 Hawthorne Avenue, Uplands, Swansea.—*Proposers*: Charles T. Ruthen and the Council.
- JONES: WILLIAM HAROLD [S., 1910], Woodbury, 24 Sunnyside Road, Hornsey Lane, N.19.—*Proposers*: W. Chas. Waymouth, Robert Atkinson, Maurice E. Webb.
- KELLOCK: ANDREW DUNCAN [S., 1913], 326 High Street, Portobello, Edinburgh.—*Proposers*: John Watson, J. C. Wynnes, W. T. Oldrieve.
- KNIGHT: DOUGLAS EDWARD [S., 1914], 29 Millicent Road, West Bridgford, Notts.—*Proposers*: A. N. Bromley, H. G. Watkins, A. Ernest Heazell.
- KNIGHT: WALTER JOHN [S., 1912], 44 Barclay Road, Fulham Road, S.W.—*Proposers*: Beresford Pite and the Council.
- KNOTT: ARTHUR JOHN [S., 1909], Rosemount, Winscombe, Somersetshire.—*Proposers*: George H. Oatley, Sir Frank W. Wills, Herbert Baker.
- LAWRENCE: FREDERICK ORCHARD [S., 1915], 164 Aigburth Road, Liverpool.—*Proposers*: C. H. Reilly, Arnold Thornely, F. G. Briggs.
- LEWIS: HAROLD MORGAN [S., 1914], "Sunnyside," Pontypridd.—*Proposers*: George E. Halliday, Harry Teather, Lennox Robertson.
- LEWIS: HORACE MERSHAM [S., 1900], The Pollards, Wokingham.—*Proposers*: Samuel J. Newman and the Council.

- LITTLE: TOM CURRY** [S., 1905], 78 Coronation Road, Bristol.—*Proposers*: George H. Widdows, Sir Frank W. Wills, George H. Oatley.
- LYNNE: DANIEL ROY** [S., 1911], 1 Corringway, Golder's Green, N.W.—*Proposers*: H. W. Chatters and the Council.
- MCBEATH: JOHN GORDON** [S., 1914], Birnam House, Sale, Cheshire.—*Proposers*: Isaac Taylor, F. G. Briggs, Arnold Thornely.
- MACKEY: HARRY** [S., 1913], 10, Clonmel Road, S.W.6.—*Proposers*: A. E. Richardson, C. Lovett Gill, S. D. Adshead.
- MACKENZIE: KENNETH BEAUMONT, M.C.** [S., 1911], North House, Lockwood, Huddersfield.—*Proposers*: Harry Redfern, H. Favarger, Harry Sirr.
- MARCHANT: FRANCIS OLIVER, M.C.** [*Special War Examination*], Hankow, China.—*Proposers*: Ernest Newton, Arthur Keen, Walter Cave.
- MARCHINTON: JAMES EDWARD** [S., 1911], 76, Carter Knowle Road, Sheffield.—*Proposers*: J. B. Mitchell-Withers, Adam F. Watson, Wm. C. Fenton.
- MARTIN: CYRIL FREDERICK, B.A. Cantab.** [S., 1909], 106 Colmore Row, Birmingham.—*Proposers*: Herbert T. Buckland, Sir Ernest George, Alfred B. Yeates.
- MARTIN: WILLIAM HERBERT** [S., 1913], 15 Lunham Road, Upper Norwood, S.E.19.—*Proposers*: W. A. Aickman, Sydney Perks and the Council.
- MARTIN-KAYE: DOUGLAS NIEL** [S., 1914], 7d Grove End House, St. John's Wood Road, N.W.3.—*Proposers*: Robert Atkinson, Charles E. Vaundell, Henry M. Fletcher.
- MAY: PERCY** [S., 1905], 235 Devonshire Road, Honor Oak Park, S.E.23.—*Proposers*: Arthur T. Bolton, Alfred H. Hart, F. Winton Newman.
- MEREDITH: JOHN NELSON** [S., 1914], Victoria Chambers, Prestatyn, N. Wales.—*Proposers*: The Council.
- MORTIMER: ALAN LEE** [S., 1912], 134 Tempest Road, Leeds.—*Proposers*: John Bradshaw Gass, Arthur J. Hope and the Council.
- MORGAN: HUGH TOWNSEND** [S., 1906], 88 Gower Street, W.C.1.—*Proposers*: F. M. Simpson, S. D. Adshead, Sir Reginald Blomfield.
- MORLEY: CYRIL SAVAGE** [S., 1911], 83, Gartmoor Gardens, Southfields, S.W.19.—*Proposers*: Jos. Gunton, Percy W. Meredith, George Edw. Withers.
- MOSS: DONALD JOHN** [S., 1912], 150 Belsize Road, Hampstead, N.W.6.—*Proposers*: Walter J. Burrows, W. F. Young and the Council.
- NEUBOULT: BERNARD** [S., 1913], Thorn Lea, Shipley, Yorks.—*Proposers*: C. H. Reilly, W. E. Willink, W. J. Morley.
- NORRIS: ERNEST BOWER** [S., 1911], Rosemere, Port Erin, Isle of Man.—*Proposers*: Paul Ogden, Isaac Taylor, Edward Howitt.
- PALMER: ROGER LIDDSDALE, M.C.** [S., 1913], 70 Chancery Lane, W.C.—*Proposers*: E. Vincent Harris and the Council.
- PARKES: EDGAR MAINWARING** [S., 1912], 180 London Road, Northwich.—*Proposers*: The Council.
- PETERS: THOMAS JAMES** [S., 1909], 14 Hartington Street, Newcastle-upon-Tyne.—*Proposers*: R. Burns Dick, J. H. Morton, Charles S. Errington.
- PORTSMOUTH: OLIVER SPENCER** [S., 1912], 7 Richmond Villas, Swansea.—*Proposers*: Glendinning Moxham, Chas. Staward Smith, Charles T. Ruthen.
- RICHARDSON: HENRY JOHN** [S., 1902], 63 Queen Victoria Street, E.C.—*Proposers*: H. Austen Hall, Alfred Cox, Philip Tree.
- RICHARDSON: JOHN BLYTHE** [S., 1903], 62, Wentworth Road, Doncaster.—*Proposers*: W. Lister Newcombe and the Council.
- RICHLEY: NORMAN** [*Special War Examination*], The Vicarage, Percy Main, Northumberland.—*Proposers*: W. Rushworth, Fredk. Willey, Arthur B. Plummer.
- ROBERTSON: DAVID** [S., 1912], 53 Buccleuch Street, Dumfries.—*Proposers*: John Keppie, John Watson, David Salmond.
- ROBERTSON: GODFREY ALAN KEITH** [S., 1911], c/o Miss Steven, Barden Towers, Strandtown, Belfast.—*Proposers*: N. Fitzsimmons, F. H. Tulloch, R. M. Young.
- ROLLO: ROBERT LESLIE** [S., 1918], 9 Lennox Road, Cardonald, by Glasgow.—*Proposers*: James A. Morris, Sir John J. Burnet, John Watson.
- RUBERY: SAMUEL** [S., 1912], 49 Lonsdale Road, Wolverhampton.—*Proposers*: C. E. Bateman, Arthur Harrison, W. Alexander Harvey.
- SANDERS: THOMAS ANDREW** [S., 1919], 5, Gloucester Road, Southport.—*Proposers*: C. H. Reilly, S. D. Adshead and the Council.
- SATCHELL: HUGH GLANVILLE** [S., 1919], "Charlbury," Castle Bar Road, Ealing.—*Proposers*: E. Vincent Harris, J. Edwin Forbes, Robert Atkinson.
- SEABROOK: SAMUEL BROUGHTON** [S., 1910], 12 Eastwood Road, S. Woodford, N.E.—*Proposers*: The Council.
- SELLICK: GEORGE BROOKING** [S., 1906], 2 Greenbank, Plymouth.—*Proposers*: Percy Morris, James Crocker, B. Priestley Shiras.
- SHENSTONE: GERALD** [S., 1913], Caswell, Glen Road, Leigh-on-Sea.—*Proposers*: Charles E. Varndell, Robert Atkinson, Horace White.
- SHIBLEY: ALBERT REGINALD** [S., 1913], Belmont, Sheringham, Norfolk.—*Proposers*: C. H. Reilly, E. H. Bourchier, Sydney Tatchell.
- SLATER: NORMAN WOODFORD** [S., 1914], Knutton Road, Wolstanton, Staffs.—*Proposers*: The Council.
- SPOONER: FRANK PHILIP** [S., 1912], Clive House, The Bishop's Avenue, East Finchley.—*Proposers*: A. Dunbar Smith, Sidney K. Greenslade, Alfred H. Hart.
- STAINSBY: GEORGE PAWSON** [S., 1917], 9 Endsleigh Gardens, N.W.—*Proposers*: F. Willey, W. Rushworth, W. T. Jones.
- STEWART: CUTHBERT BERTRAM** [S., 1914], 29 Stanhope Road, Darlington.—*Proposers*: Geo. T. Brown, W. Milburn, R. Burns Dick.
- STEWART: ADAM KNOWLES** [S., 1914], Creeve, Loughgilly, Co. Armagh.—*Proposers*: Robert M. Young, Paul Waterhouse, N. Fitzsimons.
- STOBART: FOSTER ROWLAND** [S., 1913], Harewood, Grange Road, Newcastle-on-Tyne.—*Proposers*: Geo. T. Brown, R. Burns Dick, J. T. Cackett.
- STONE: JOHN THOMAS** [S., 1915], 4 Creswick Walk, N.W.4.—*Proposers*: Raymond Unwin, A. E. Richardson, C. Lovett Gill.
- STONER: ARTHUR PHILIP** [S., 1912], "Arrochar," Dyke Road, Brighton.—*Proposers*: George H. Widdows and the Council.
- STREADWICK: VERNON JAMES** [S., 1914], 84 Tulse Hill, Brixton, S.W.2.—*Proposers*: A. E. Richardson, C. Lovett Gill, S. D. Adshead.
- STRICKLAND: HARLEY CLARENCE WILFRID** [S., 1914], 37 Mount Road, Sunderland.—*Proposers*: A. Saxon Snell, Banister Fletcher and the Council.
- SUDDARDS: FRANK, P.A.S.I.** [S., 1908], 5 St. John's Terrace, Heysham Road, Morecambe, Lancs.—*Proposers*: J. Duncan Tate, J. Gordon Allen, W. J. Morley.
- SUTCLIFFE: FREDERICK** [S., 1911], "Wynarth," King's Road, Colwyn Bay, N. Wales.—*Proposers*: C. Ernest Elcock, Francis Jones and the Council.
- SYMINGTON: HERBERT ANDREW** [S., 1908], The Cottage, Narborough, Leicestershire.—*Proposers*: H. L. Goddard, Howard H. Thomson, Arthur H. Hind.
- TAYLOR: JOHN ALEXANDER CHISHOLM** [S., 1915], The Manse, Waterhead, Oldham.—*Proposers*: Robert Atkinson, Henry M. Fletcher, Herbert Wigglesworth.

- THOMAS: ARTHUR PHILIP [S., 1910], Danygraig, Southern Down, Bridgend, Glam.—*Proposers*: R. Elsey Smith and the Council.
- THOMAS: CHARLES STANLEY [S., 1908], 29 Broughton Road, Handsworth, Birmingham.—*Proposers*: The Council.
- THOMAS: WILLIAM NORMAN [S., 1911], 6 Norman Road, Northfield, Birmingham.—*Proposers*: The Council.
- THOMERSON: HAROLD ALBERT [S., 1911], Holmby House, 46 Kenninghall Road, Upper Clapton.—*Proposers*: Thos. E. Colcutt, H. P. Burke Downing, George Hubbard.
- THORPE: ALEXANDER [S., 1910], 6 Newton Road, Bayswater, W.—*Proposers*: Edmund Wimpey, C. Lovett Gill, A. E. Richardson.
- UNSWORTH: GERALD [S., 1904], Steep, Petersfield, Hants.—*Proposers*: Thos. E. Colcutt, Sir Ernest George and the Council.
- WARWICK: JAMES GUY [S., 1915], 103 Park Road, Peterborough.—*Proposers*: Robert Atkinson, Henry M. Fletcher, Herbert Wigglesworth.
- WELCH: HERBERT ARCHIBALD [S., 1909], "Headlands," Huddersfield, Yorks.—*Proposers*: J. Reginald Naylor, G. Hanson Sale, Thomas B. Whinney.
- WEST: JOHN ARCHIBALD [S., 1911], 98 Leslie Road, Sherwood Rise, Nottingham.—*Proposers*: H. G. Watkins, Ernest R. Sutton, Robert Evans.
- WESTCOTT: GEORGE [S., 1893], West Gate, Cheshire.—*Proposers*: Francis Jones, Isaac Taylor, John H. Woodhouse.
- WILKINS: VICTOR [S., 1900], "Oak Lodge," Thornton Heath, Surrey.—*Proposers*: Jos. Gunton, Henry M. Fletcher, Paul Waterhouse.
- WILLMAN: JOHN HENRY [S., 1905], 65 Greenaway Avenue, Taunton.—*Proposers*: F. W. Roberts and the Council.
- WILLS: TRENNITH LOVERING [S., 1910], Hightown, near Liverpool.—*Proposers*: C. H. Reilly, Detmar Blow and the Council.
- WILSDON: PERCY THOMAS [S., 1911], 27 Blomfield Road, Warwick Avenue, W.9.—*Proposers*: Sidney V. North and the Council.
- WILSON: JOSEPH [S., 1913], 138 Sinclair Drive, Langside, Glasgow.—*Proposers*: James Lochhead, Alexander N. Paterson, John B. Wilson.
- WINEBAUM: GOODMAN GEORGE, P.A.S.I. [S., 1915], 13 Shiplake, Calvert Avenue, N.E.—*Proposers*: The Council.
- WOOD: THOMAS SPENCER [S., 1915], Hawthorne House, Handsworth Wood, Birmingham.—*Proposers*: C. E. Bateman, Arthur Harrison, John P. Osborne.
- WRIGHT: CHARLES HENRY [S., 1912], 49 Market Square, Aylesbury.—*Proposers*: The Council.
- WYETH: JOSEPH HENRY [S., 1906], "Westview," Beeches Avenue, Carshalton, Surrey.—*Proposers*: The Council.
- YEOMAN: GUY HEMINGWAY [S., 1906], 10 Shrubbery Road, Streatham, S.W.16.—*Proposers*: Arthur Keen, Ernest Newton, Winton Newman.

Mr. C. G. BOUTCHER [A.] wishes it known that he has returned from the Malay States on twelve months' furlough and that his address while in England will be 36, Adelaide Road, Brockley, S.E.4.

Mr. LEONARD W. BARNARD [F.] of Cheltenham, writes that he has returned from France and started practice again.

#### Second Impression of the Cottage Designs Book.

HOUSING OF THE WORKING CLASSES: Cottage Designs awarded Premiums in the Competitions conducted by the R.I.B.A. with the concurrence of the Local Government Board. Second Impression. Demy 4to. Price, 7s. 6d.—R.I.B.A., 9, Conduit Street, London, W.; the Trade supplied by Messrs. B. T. Bateford, Ltd., 94, High Holborn, W.C.

## NOTICES.

Conference on the Condition of the Building Industry, Tuesday, 20th May 1919, at 9 Conduit Street, W.

Chairman: Mr. HENRY T. HARE, President R.I.B.A.

10.30 a.m.—Opening of the Conference by the Right Hon. Dr. ADDISON, President of the Local Government Board.

10.45 a.m.—Papers by Major Harry Barnes, M.P. [F.], Mr. Paul Waterhouse [F.], Mr. Harry Gill (representing the Society of Architects), Mr. F. H. A. Hardcastle [F.] (representing the Surveyors' Institution), Mr. F. L. Dove (representing the National Federation of Building Trades Employers), Mr. Edmond J. Hill (representing the Institute of Builders), Mr. J. P. Lloyd and Mr. J. Murray (representing the National Federation of Building Trades Operatives), and Mr. A. A. Hudson, K.C.

2.30 p.m.—A brief review of the Papers by the Chairman; Discussion; and Resolution.

Mr. Lubschez' Paper on American Railway Stations, 26th May.

THE FOURTEENTH GENERAL MEETING (ORDINARY) of the Session 1918-19 will be held Monday, 26th May 1919, at 8 p.m., for the following purposes:—

To read the Minutes of the previous Meeting; formally to admit members attending for the first time since their election.

To read the following Paper:—

#### RAILROAD TERMINALS OF THE UNITED STATES.

By BEN. J. LUBSCHEZ, of New York, Fellow of the American Institute of Architects.

The Annual Elections, Monday, 2nd June.

THE FIFTEENTH GENERAL MEETING (BUSINESS) of the Session 1918-19 will be held Monday, 2nd June 1919, at 8 p.m., for the following purposes:

To read the Minutes of the Meeting held 26th May; formally to admit members attending for the first time since their election.

To receive the Report of the Scrutineers appointed to direct the election of the Council, Standing Committees, etc., for the year of office 1919-20.

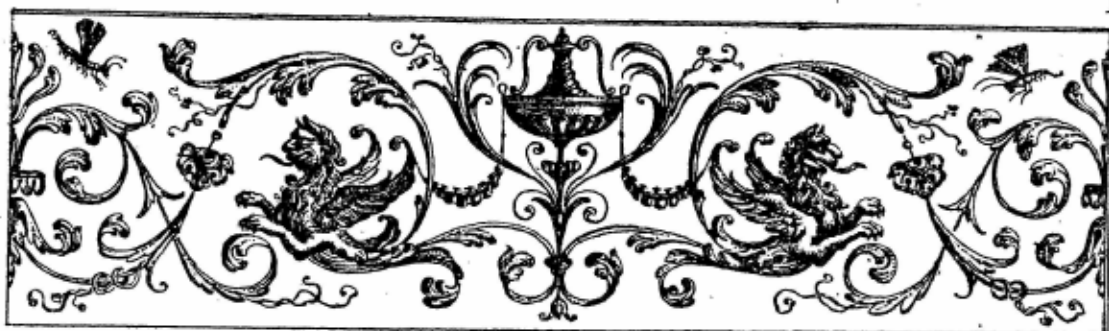
To proceed with the election of candidates for membership [see names, etc.; pp. 164-68].

Major Warren's Paper, Monday, 16th June.

#### AN ARCHITECT'S WAR EXPERIENCES IN FRANCE AND THE BALKANS.

By EDWARD WARREN [F.], Major, Serbian Army.





## LEGAL DIFFICULTIES IN THE ADMINISTRATION OF A BUILDING CONTRACT.\*

By Captain E. J. RIMMER, B.Sc., M.Eng., Assoc.M.Inst.C.E., of Lincoln's Inn and the Northern Circuit, Barrister-at-Law, Late Division Officer Royal Engineers; Lecturer to the University of Liverpool on "Conditions of Engineering Contracts."

Read before the Royal Institute of British Architects, Monday, 31st March, 1919.

**T**HE Law is much criticised and abused by many sections of the community, but the author can conceive of no profession to which the administration of the law comes as such a disturber of its artistic and utilitarian course as that of Architecture! The law, however, recognises no ignorance of itself, and has to be faced and understood.

In recent years the Architectural periodicals have given more and more prominence to the legal decisions affecting the administration of Building Contracts, while this Institute is ahead of its kindred societies of the Engineering profession in having a Form of Contract Sub-Committee, and having been, as an Institute, a party to an agreed form of Building Contract.

The National Federation of Building Trades Employers expect shortly to publish a form of a proposed National Building Code. As the form of the proposed Code has not yet reached its final shape the author is precluded from commenting upon the changes which will be brought about should the form be accepted by the architectural profession either by consent or after Government arbitration, as in the case of the Scottish Code. At the same time it is well known that there are many clauses in the R.I.B.A. form, and still more in forms of contract provided by the legal advisers of municipalities and other big corporations, which are severely criticised by the building contractor as imposing too numerous and too severe risks upon him. In this respect also it is to be observed that the Society of Architects has recently issued a form of contract which, while not quite final, has been commented upon in the Building Press. This form, however, appears in the main to be reactionary, although in one or two minor matters it goes some way to meet objections which have been made to the R.I.B.A. form.

While, in reading this Paper, we must recognise that there are new proposals under discussion, and that if the new proposals are accepted the conditions of the administration of Building Contracts will be changed in certain respects, we shall accept for the time being, and for the purpose of this Paper, the present state of things without considering any special form of contract.

The architect considered in this Paper is one who has responsibilities to both employer and contractor, viz., to use his best skill and judgment in the interest of the former, and to exercise the strictest fairness in decisions carrying legal obligations which he may make as between the former and the latter. The time seems particularly opportune for a consideration of the subject introduced for discussion by this Paper, and it is clearly important in the interests of his client that the architect should thoroughly understand the contract under which the work is being carried out, and its legal interpretation. It is therefore with these objects that the author has prepared the following notes, in the hope

\* Reference letters in parentheses refer to Appendices at the end of the Paper.

that they will be really useful to the members of this Institute in carrying out their professional duties and in the consideration of any new proposals for a change in the standard building contract.

The first consideration for the architect when he advises his client as to the method by which the work should be carried out is the general form of the contract to be used and the documents that constitute it.

#### LUMP SUM CONTRACT WITHOUT BILL OF QUANTITIES.

The simplest form is the Lump Sum Contract, without Bills of Quantities, relying for the interpretation of its terms upon the plans and the specification alone.

This form is constantly in use for small works and for alterations, and casts upon the contractor the responsibility of carrying out for a lump sum payment all the work shown in the plans, in conformity with the requirements as to material and quality set out in the specification. Under it, the contractor takes upon himself the responsibility of carrying out the work without variation and in accordance with the plans, and of doing all work and providing all materials and labour which are incidental to and necessary for the proper completion of the work.

The effect of such a form of contract when used for works of any magnitude is to impose upon the contractor very serious and heavy risks—he accepts, under it, the risk not only of unforeseen accidents and difficulties, but of unforeseen or omitted details of construction. He becomes, in fact, the guarantor of the completeness of the plans and of all preliminary surveys of the architect. (A.)

The legal effect of such a contract, while it may be good in law, becomes, in certain instances, most inequitable in fact. If the contractor ought to have anticipated such and such a difficulty not shown upon the plans, or such and such construction not stated in the specification, still more should the person who made the design and drew the specification have anticipated it, and for this reason, while a lump sum contract is pre-eminently the most favourable to the employer, because he knows the full extent of his liability upon entering into the contract, contractors now almost universally refuse to enter into this form except for small work, unless some provision be made for payment for work not shown in the plans by the incorporation of a Bill of Quantities priced for this purpose.

Moreover, the lump sum contract pure and simple is unpliable, and should the employer wish, on the advice of his architect, to make alterations or variations in the original plans during the course of the work, he can only do so under this form by entering into a new contract for fixing the cost of such alterations and the terms of adjustment of the same.\*

#### LUMP SUM CONTRACT WITH BILL OF QUANTITIES.

For these reasons a very usual form of contract, both in building and engineering works, is the "lump sum" contract incorporating a Bill of Quantities,† which, while not applicable to the payment for the original contract work, is provided in order to furnish a means by which the contract price may be adjusted in the event of any alterations, additions, deductions, or deviations from the original contract work which may be decided upon after the signing of the contract. In this case the Bill of Quantities is a document incorporated into the contract for this particular purpose, and as regards the original contract work is merely an estimate made by the architect or quantity surveyor (without warranty for correctness) upon which the contractor may act if he wish. If there is no provision in the contract for rectification of the Bill of Quantities in case of error, or if it is clear from the contract that the Bill of Quantities is merely introduced as a schedule for the purpose of the assessment of the value of any deviations from the contract work, the contractor still takes all the risk of incorrectness of the Bill of Quantities to his prejudice. (B.)

\* The R.I.B.A. form of contract, however, makes provision for the assessment and valuation of extra work or variations done under a lump sum contract even though Bills of Quantities are not incorporated by requiring the contractor to furnish a verified copy of the original estimate for this purpose (see clauses 8 and 13).

† It should be noted that in Engineering Contracts it is usual to have a document known as the "Schedule of Prices" incorporated into the contract for this purpose as well as a Bill of Quantities. In this case the Bill of Quantities is no part of the contract, and is merely the engineer's estimate of the amount of work.

By Clause 12a of the existing R.I.B.A. form, however, provision is made in those cases where the Bill of Quantities form part of the contract, for their rectification in case of error and for such rectification to be dealt with as a variation under the contract, and this at once removes the risk to the contractor in accepting the Bill of Quantities as a correct representation of the amounts of work required of him.

Under this form, nevertheless, the contractor still accepts the risk of unforeseen circumstances and difficulties resulting in his having to do work not anticipated by him but incidental to the carrying out of the work in a proper manner, and it is urged that all labours should be included in the Bill of Quantities for the mitigation of these responsibilities.

#### SCHEDULE CONTRACT.

Where provision is made for the payment and measuring up of all items not *expressly* provided in the Bill of Quantities, however, the contract may become a less favourable contract to the employer than a purely *Schedule Contract*, under which every part of the work, including what is in the R.I.B.A. form the lump sum portion, is entirely remeasured after execution, and under which payment to the contractor is arrived at by the multiplication of quantities so measured by the rates tendered in the Bill of Quantities.

In this case the Bill of Quantities is not only a document used when there are any deviations from the original work or omissions from plans and errors in quantities, but contains, in fact, the terms of the contract for the whole of the work. The war has led to a very wide use of this form of contract.

The disadvantage to the employer in such a case is that he relies entirely upon the completeness of the Bill of Quantities and the careful anticipation by the architect and quantity surveyor of all the items of work which will be required for the carrying out of the work. It transfers the risk of unforeseen accident and difficulties in the carrying out of the work from the contractor to the employer. At the same time it means that the employer will pay only for work which is actually done.

One point should be especially emphasized in regard to such a contract in connection with comparison of tenders. The contractor may urge that the correct and appropriate basis of comparison of tenders is the total amount of each tender irrespective of the rates quoted for the various details of the work, but from the employer's point of view every item comprised in the Bill of Quantities by the contractor requires the most careful scrutiny by the architect in the consideration of tenders. The reason for this is obvious: the total price of each tender in such a case will only serve as a good basis of comparison between the several tenders submitted if the Bill of Quantities is complete and accurately compiled, both as to quantities and description of the work to be done, because the actual amount to be paid to the contractor will be greater or smaller, according to whether more or less work is done than that estimated in the Bill of Quantities. A contractor may put a high price upon one class of work which he thinks will result to be greater in quantity than that estimated in the Bill of Quantities, and a compensating lower price on work which he believes will result to be less, with exactly the same result in the total tender as if he had put moderate charges throughout. In this event the cost of the work to the building owner will be greatly increased if the contractor's estimates prove correct.

An illustration of this may be found in a tender for excavation on speculative views as to what the excavation will turn out to be. If the contractor is tendering for soft and hard ground and also for rock, he may have better information than the architect as to what kind of ground he is likely to encounter, and he would then tender a higher price than the normal one for the class of excavation which he believes will be the predominating one to be carried out.

#### PRIME COST PLUS PROFIT CONTRACT.

Another form of building contract to be particularly considered at the present time is the Prime Cost plus Profit Contract.

This form is one which to some small extent was in vogue in this country before the war, notably in the case of the Liverpool Cunard Company Buildings, but which, owing to the exigencies of the war, has become very common and has been the subject of enquiry by Lord Colwyn's Committee. It is one which we shall not be required to deal with at any length in this paper, although there are legal questions involved in the administration of this type of contract which should be indicated.

Where the profit to the contractor is a percentage profit, that is, a percentage on the whole cost of the work, the contractor will take no responsibility whatever as regards economy, and the architect—unless the building owner employs a quantity surveyor for the purpose—must assume certain responsibilities for the economic administration of the work: This is a responsibility which architects will be slow to take upon themselves owing to the high degree of extra supervision and increased work which it will involve, but in order that the contract should be effective at all, the contractor must be answerable to someone, presumably the architect or person appointed by him, for the proper rendering of accounts, and for obtaining approval for purchases and payments.

On this matter the author has written at some length a letter to the Editor of *The Times*, which was published in a January number of the "Engineering Supplement," but the particular points to be emphasized are:—

1. That the contract should make the architect's approval of quotations for the purchase of material, rates of wages to be paid to the contractor's staff, and the hire prices for machinery and plant, a condition precedent to payment of these charges.

2. That all payments, of whatever kind, and particularly that of the men's wages, should be actually witnessed or proved beyond doubt by someone appointed by the architect on behalf of the employer.

3. That the duty of time-keeping should be assumed on behalf of the employer, and not left to persons employed by the contractor.

4. That Prime Cost should be very clearly defined in the contract, and that the expenses incidental to the carrying out of the job should be either expressly included in, or omitted from, this definition.

These four points are important ones, and do not in any way impugn the honesty of the contractor himself, but are merely protective to the employer against the carelessness or dishonesty of anyone in the contractor's employ, by which the contractor will benefit.

In order to enforce these terms, provision should be made in the form of contract whereby the contractor is obliged to conform with them.

Another important point which should, in the author's opinion, be given effect to in this form of contract is, that as the contract is one where the contractor's profit is assured in any case, the employer should reserve the power, through his architect, of directing the administration of the job from beginning to end. It is very easy, by giving the contractor an apparent unrestricted discretion to carry out the work in whatever way he thinks fit, to establish legal rights prejudicial to the employer in regard to it, and a special clause should be inserted to retain the employer's discretionary powers to direct how, and in what manner, the work should be carried out on the principle that "He who pays the piper calls the tune."

#### FIXED PROFITS.

In order to obviate the necessity of supervising every detail of expenditure and also to encourage the contractor to exercise the utmost economy on a work of this kind, the profit to the contractor has, in certain cases, been fixed at a lump sum instead of a percentage on the total cost, and bonuses have been offered if the actual cost of the work results to be less than the estimated cost. This form of contract has been recommended by Lord Colwyn's Committee, and, moreover, is one which has received very favourable criticism from many sections of the community engaged in the building trade.

Upon this form of contract being introduced, it is feared that many difficult administrative problems will have to be faced by the architect, and, of course, in regard to it, he will be guided by the



provisions of the written contract. It does not, however, seem that the effect of it will be quite so simple and advantageous to the employer as appears on the face of the suggestion.

In the first place, the control of the administration of the work under such a contract would necessarily be left entirely in the hands of the contractor by reason of the provision in his contract that his profit is fixed, and that a bonus will result to him from expeditious and economical results. Under this form, therefore, as in a Lump Sum or Schedule Contract, the contractor must not be interfered with, but in this case, as distinct from the Lump Sum Contract and Schedule Contract, the money which the contractor is spending, notwithstanding the fact that a bonus may result from economy, is the employer's, and not the contractor's money.

It is, therefore, to be doubted whether an employer would be wise, even when holding out the hope of a substantial bonus to the contractor under certain circumstances, in placing the unfettered control of the expenditure on the work in the hands of one who is not by any means responsible to him for that expenditure.

Moreover in this case the only proof that the contractor would be required to give for payment of his accounts would be his total expenditure, as distinct from obtaining the approval of the architect on behalf of the building owner of his expenditure from time to time, and if at any time the contractor became assured that he would be unable to earn his bonus, or that more profitable results would be obtained by placing contracts for the supply of material with persons who in return would place advantageous contracts with him, there would be a strong temptation to him not to exert himself in the strictest economical working of the job. While in many cases a provision against such a contingency may not be necessary, one must take into consideration the possibility of the contractor whose tender is accepted proving to be slack and unsatisfactory, and provide against that possibility. The manner in which this suggestion can be carried out would be a written term to negative the implied term that there must be no interference with the contractor in his administration of the work.

The above broad summary of the different forms of contracts is, more or less, indicative of the general consideration which architects should give to the contract for building work which, as agents of the employer, they are bound in duty to do.

#### DIFFERENT BUSINESS FUNCTIONS OF ARCHITECT.

We shall now deal in more detail with the legal difficulties encountered by the architect after the contract is let, and in order to appreciate them better it is desirable in the first place to differentiate the various functions performed by the architect in the carrying out of the work. He is employed as a professional man by the employer or building owner, and in the main acts on his behalf as his *agent*. Under existing forms of contract, however, the architect performs duties and carries obligations not only to the employer but to the contractor. This is specially to be noted when he carries out the powers and obligations as regards such matters as under the contract are left to his sole discretion (*e.g.*, in arriving at any decision as to quality of work and quality of workmanship), as also in matters from which there is appeal to arbitration (*e.g.*, in the determination of the extension of time for extras or delays, the amounts of certificates and the putting into effect of the forfeiture clause). In all these cases, whether there be arbitration in case of his decision being rejected or not, he is acting in a *quasi-judicial capacity*, and is not therefore to be deemed, nor must he consider himself, a servant merely of the employer but a person who, as between employer and contractor, must make up his mind and express his decision without partiality and with fairness to both parties. Moreover there is yet a third function which an architect may be called upon to perform in the carrying out of the contract. This is one which many architects shrink from performing under contracts for their own work but which, especially in contracts of municipalities, is still quite common. The architect may be the *sole arbitrator* of all matters in connection with the contract as to which a dispute may arise between the building employer and the contractor.

## AGENT FOR EMPLOYER.

For the purpose of this Paper the author wishes to emphasize the distinction between these three important rôles played by the architect, because in them his legal responsibility also takes different forms. We will first consider the architect's responsibility to his client, the employer, when he acts purely on his behalf as his agent. In this capacity he is required by his contract with his client to use in the exercise of his work a reasonable degree of care and skill. He does not necessarily guarantee that the structure which he designs and supervises shall be wholly satisfactory nor that he will anticipate all the difficulties of construction; but he must act up to the average standard of competent men in the circumstances in which he is placed. To some extent the degree of skill required of him will depend upon his pretensions, for if he claim to be an expert in a particular branch of architecture, and by his claim to such competence induces the employer to entrust him with that class of work, there must be implied in the terms of his contract a clause of warranty that he has such skill.

If, then, an architect is adjudged to be guilty of negligence or of lack of such skill as he is deemed to have warranted, the result will be that he will be not only unable to recover remuneration for his work, but may be liable to the employer for the full amount of the damage occasioned by his fault. (C.)

## PRESERVATION OF CONDITIONS OF CONTRACT.

The next important responsibility which the architect owes to his client is one upon which very little stress has been laid in either legal or architectural text-books, viz., to preserve the conditions of the contract. It is extremely doubtful whether any failure to do so would involve the architect in an action for negligence at the instance of the employer, but as a general question of business efficiency of an architect, his management of the contract so as not to prejudice the building owner in his proper remedies under the clauses of it appears most important. It is not the province of the architect to go beyond the powers vested in him by the contract without the consent of the building owner, and in making any decision as between the building owner and contractor or in giving any instructions to the contractor which may be necessary, the architect should first ascertain by reference to the contract that the decisions or instructions are within these powers. The broad rule to be observed in such a case appears to be that the architect should do nothing which could lead the building owner to take up the attitude that the architect has exceeded his authority and that, therefore, the latter's decision cannot prevail. Nothing is more deplorable than cases of this nature in which it is found that on an action being brought either by the contractor or by the employer, the employer takes up a legal defence or makes a legal claim in respect of which the architect has taken a step or given a decision to the contrary effect. Such cases seriously discredit the dignity of the architect concerned, and his client should never be placed in a prejudicial position by reason of the architect having acted beyond his authority. These matters may be illustrated in various ways.

One duty of the architect—upon the failure of which contractors in the past have placed considerable reliance in their defence of actions for non-completion, forfeiture, etc.—is to issue instructions and plans in accordance with the terms of the contract. The contract may, or may not, be silent upon the question of the time in which these obligations have to be fulfilled, but whatever may be the written terms of the contract there must be implied into a contract which exacts from the contractor an obligation to fulfil his contract in a definite time, a term that the contractor shall be furnished in reasonable time, and at such times as shall be necessary for him to carry out his obligations, with the plans and instructions necessary for the carrying out of the work.

This is a matter which an architect will do well to keep clearly before him during the whole course of the work. He should appreciate the fact that any criticism of him in respect of this matter might be seriously prejudicial to his client, either as giving a cause of action to the contractor or as presenting him with a defence to an action. On the first note of dissatisfaction from a contractor as to delay in the issue of plans or instructions, an architect does well to take note of the warning and to meet it either

by repudiating the suggestion by a recital of facts, or at once issuing the instructions or plans required. The fact that the architect has power under the contract to extend the time to cover such delays, and, in fact, exercises the power by making an extension, will not deprive the contractor of his right to claim damages caused by such delay. (D.)

Another class of case where the architect destroys the legal effect of the conditions of a contract is the class where it is proved that he has acted improperly in a *quasi-judicial* capacity, or that he had failed to exercise his powers at the time, or in the manner provided by the contract. These matters will be dealt with later in the Paper.

The architect must exercise great care not to do anything which might be interpreted by the Courts as a waiver of any condition of the contract. There is always a danger of non-insistence on any right under the contract given on default of the contractor being considered in law to be a waiver of such right unless the contrary is expressed. (E.)

Another manner by which the architect may imperil the conditions of the contract has reference to a contract of guarantee of the efficiency of design by specialists. This has been illustrated to the author's knowledge in an unreported case in respect of the employment by an architect of reinforced concrete specialists, who, while contractors for the work, gave a guarantee of the efficiency of the design. Before the work was completed the architect had grave misgivings as to the safety of the work constructed, and before testing in the manner described by the guarantee, gave instructions for the strengthening of it in accordance with plans supplied by himself on the advice of a consulting expert. The contractors at once disputed the efficiency of the strengthening methods and claimed that certain weaknesses would result. In an action for payment of this work it was urged on behalf of the contractor that the architect, by insisting upon a change in design, had assumed the responsibility for it and that therefore the guarantee was no longer binding. This contention, on the reported cases, appears to have sanction in law and therefore stands as a warning to architects to test the original design beyond all question before imposing upon the guarantors other ideas of design. (F.)

#### AUTHORITY OF ARCHITECT.

A small matter which should be noted in passing is that the architect, if he acts beyond his authority in respect of the ordering of work, may become liable for the payment of the work so ordered. At the same time the contractor is, generally speaking, entitled to treat the architect as agent for the employer, and may recover from the latter for work ordered by the former. On the other hand, the architect has no implied authority to dispense with or alter the terms of the contract, and if there be no variation clause he cannot by approval authorize any variation in the plans or specifications. (G.)

#### SUB-CONTRACTORS.

Another important matter which should also be mentioned in regard to the administration of the contract in respect of the architect's employment as agent for the employer, is the question of sub-contractors. Sub-contractors nominally are what their name implies—contractors to the principal contractor—and it behoves all careful and discreet architects to take no step which can possibly interfere with the contractual obligations between the sub-contractor and the contractor. Some considerable consternation was caused recently by a decision of a case to the effect that contractors in dealing with sub-contractors were merely agents for the employer, and that the sub-contractor could, therefore, sue the employer in regard to breaches of their contract by the principal contractor. This case, however, has not been allowed to stand, and in 1917 the House of Lords established a rule that, generally speaking, there is no presumption, in the case of prime cost or provisional items in a building contract, that the building owner is liable upon the contract upon which the things in question are ultimately supplied, nor that the builder is his agent in the matter. (H.)

In spite of this case, however, it is submitted that the architect may so act as to make the employer

liable. The House of Lords did not specifically overrule an earlier case in which the employer was held liable by reason of the fact that the architect had issued a certificate against the employer in favour of a sub-contractor. It appears, therefore, that an architect should always refuse to certify in this way and should provide for payments to be made to sub-contractors by the contractor.

#### QUASI-JUDICIAL FUNCTIONS.

During the construction of the contract work, the architect, besides performing duties to the employer as his agent, has certain functions under the contract which carry with them obligations to the contractor as well. It is thought by many architects that these obligations only apply where their decision under the contract is a final one, but this is an erroneous idea. Any decision which the architect is called upon to make as between the employer and the contractor, even though there be an appeal from such decision to an arbitrator, must be made by the architect in a quasi-judicial capacity. It is nevertheless necessary to differentiate those upon which the architect's decision is final and those upon which there is an appeal to an arbitrator in case his decision is not accepted by either contractor or employer. In making this distinction one should remember that, generally speaking, it is the aim of all contractors to preserve for themselves the power to appeal to an independent arbitrator in every question in dispute, and the aim of the employer, generally speaking, to have all his disputes determined by the architect. The conflict of ideas upon this subject is likely to be brought to an issue as soon as any new form of contract is proposed, and under the existing R.I.B.A. form very few, but very important final decisions still remain in the hands of the architect. On general principles it is indeed an anomalous and difficult position for an architect or engineer to fulfil, when called upon to determine disputes which may, in many cases, be of his own making and upon which he has, long before the dispute has arisen in any definite form, given his decision. At the same time it is felt by many architects and engineers engaged in construction of work that expedition and economy in the carrying out of the work will be seriously impaired if the contractor is enabled by the terms of the contract to refer every difference—and there must be many in the course of the carrying out of any large constructional work—to one who requires for its determination the formal evidence and legal procedure under which all matters are usually determined in the Courts of Law. The avoidance of disputes under existing forms of contract is undoubtedly secured in many cases by the contractor's knowledge that the architect's word is the last word, and that any disagreement with his award will avail him nothing.

On questions of quality of material and workmanship, efficiency of workmen and assignment of contract the decision of the architect under the R.I.B.A. form of contract is still final, and under municipal and engineering contracts many other matters are also left to the sole decision of the architect or engineer. It has often been urged that as the architect is employed by one party to the dispute he should have no absolute decision even in these matters.

Now one special consideration in regard to the exercise of all quasi-judicial functions of the architect is, that he acts without fear or favour and with the protection that is given to an arbitrator. In the exercise of his duties in this respect he is only required to use his proper and fair skill and judgment, and is not in any way liable to either the employer or the contractor for negligent or foolish use of such judgment.

The test as to whether the architect is acting as agent for the employer or as quasi-judge is best expressed by Smith, M.R., in *Chambers v. Goldthorpe* (1901 1 K.B. 624), in which the question in dispute was whether an action would lie against the architect for negligence. He said:—

"If, in making out the certificate, the architect was acting merely as agent for the building owner he would be liable if he should have acted negligently, but if he were then acting as quasi-arbitrator between the two parties he would not be liable for negligence at the suit of the owner. There is no suggestion in this case that the architect acted fraudulently or in collusion with the builder, so that the only question is as to his liability for acting negligently. There can be no doubt that in what the plaintiff



did under several of the clauses of the building contract he was acting solely as agent for the building owner. He was employed by the owner to look after the builder and to see that the builder made use of proper materials. *In those matters the architect was acting as agent for the owner, his position was adverse to the builder. In those instances where his duty was simply to protect the interests of the owner, he was acting as agent for the owner, and would be liable to the owner if he acted negligently. . . . I feel unable to hold that under the clause giving him power to make a final certificate the sole duty of the plaintiff was to look after the interests of the owner as against those of the builder. Under that clause he owed a duty to the builder as well as to the owner. In agreeing to act under that clause he undertook a duty towards both of them which was to hold the scales fairly, and to decide impartially between them the amount which the builder was entitled to be paid by the owner . . . the matter requires the use of professional knowledge, skill and judgment."*

The architect when he performs these functions should act impartially, although this does not mean that he should hold a judicial enquiry. Lord Esher in one case (*re Carus Wilson and Greene* (1886) 18 Q.B.D. 7) said :—

"The question here is whether the umpire was merely a valuer or an arbitrator. If it appears from the terms of the agreement by which the matter is submitted to a person's decision that the intention of the parties was that he should hold an enquiry in the nature of a judicial enquiry and hear the respective cases of the parties and decide upon evidence laid before him, then the case is one of an arbitration. On the other hand there are cases in which a person is appointed to ascertain some matter for the purpose of preventing differences from arising, not of settling them when they have arisen, and where the case is not one of arbitration but of a mere valuation."

In another case (*re Dawby and Hartcup* (1885) 15 Q.B.D.) Lord Esher said :—

"If a man is on account of his skill in such matters appointed to make a valuation in such a manner that in making it he may in accordance with his appointment decide solely by the use of his eyes, his knowledge, and his skill, he is not acting judicially; he is using the skill of a valuer, not of a judge."

It should be remarked that while in exercising these powers the architect is free from liability for negligence, he cannot, by the exercise of his judicial functions, avoid the consequence of his negligence while acting solely as agent for the employer. (J.)

It will be impossible to detail in this Paper the various duties of the architect under this head, but they comprise, amongst other duties, that of determining the difficult question as to what is, and what is not, an "extra" to the lump sum contract; the amounts due to the contractor from time to time under certificates issued by the architect; the extension of the contract time for completion in case of unavoidable delays, extra works, etc.; the valuation of extra works in accordance with the Bill of Quantities (or where inapplicable by analogy), and the putting into effect of the forfeiture clause under certain circumstances, as well as the approval or disapproval of materials and workmanship. All we can do here is to indicate the following general rules as to the exercise of the duties :—

1. All these functions should be exercised with fairness and impartiality and with entire independence. (K.)
2. All powers should be exercised at the appropriate and contract time and omission to exercise them at the proper time may be fatal to the valid exercise of them at all. (L.)
3. Where there is an Arbitration Clause giving power to the contractor to have the matter referred to an independent arbitrator, in case he disputes the decision of the architect, the arbitrator's award will take the place of any decision made by the architect, and the fact that the architect has refused to give an order in writing for extras does not preclude the arbitrator from awarding payment for extras. (M.)

#### ARBITRATOR.

The duties of the architect as an arbitrator must also be referred to very shortly, but in view of the fact that under the existing R.I.B.A. form the architect in charge of the job does not assume the

position of arbitrator, the matter is of very much less interest to the members of the architectural, than to the members of the engineering, profession. In spite of the anomaly of the person employed by the employer being the sole arbitrator in case of dispute between him and the contractor, the Courts of Law will sanction this, if it is clear that the contractor agreed to this form of arbitration, and unless there are special circumstances by reason of which the architect or engineer for the work has become unsuitable.

The Court will stay an action and refuse the jurisdiction of the Courts on the general broad rule that it was never expected nor intended that the architect should arbitrate with "a mind free from the human weakness of preconceived opinion." This rule was laid down by Lord Justice Bowen in the case of *Jackson v. Barry Railway* (1893 1 Ch. 238), where the Court stayed an action and referred the matter to the engineer, in spite of the fact that previously to the arbitration, and also on the first day of the arbitration, the engineer had expressed the view that he was against the contractor. This has been followed by even stronger cases. It was admitted in two of them that the engineer was in substance a judge in his own case. The Court of Appeal held, however, that there was no probability that he would be biased. In another case the engineer had characterized the claim of the contractor as "outrageous," but the Court held that he had not even then disqualified himself from acting.

There are, however, certain grounds upon which the Court will refuse to stay an action. They appear to be summarized as follows:—

1. Where there is an unseemly personal dispute raising a vindictive feeling between architect and contractor.
2. If there is a *bona fide* dispute in regard to whether the architect has or has not done an act entitling the contractor to payment.
3. If there is a substantial and *bona fide* dispute in regard to the existence of an agreement for the payment of work not contemplated by the contract or schedule between the contractors on the one hand and the architect on behalf of the building owner on the other.
4. If there is a *bona fide* allegation that the architect as servant of the building owner has acted unreasonably towards the contractor.
5. If without fraud, turpitude or collusion with the building owner, the architect has by mistaking his position failed to act judicially through the whole course of the undertaking.
6. If without application by the building owner to stay an action brought by the contractor, the architect makes his award without the consent of the contractor.
7. If forfeiture has taken place on the certificate of the architect and the question as to whether the architect has exercised his powers under the forfeiture clause properly is to be determined.

It has been suggested by the judgment of the late Master of the Rolls that another ground for disqualifying an engineer is that the matter cannot be properly dealt with without the cross-examination of the engineer. This, however, has been modified by the judgment of L. J. Farwell in a later case. He said:—

"It is impossible to say that arbitration should be negatived whenever it is suggested that the cross-examination of the engineer is desirable; there are scores of points in the execution of a large contract which depend upon the engineer's own evidence, and, as a general rule, these would be left to him notwithstanding any suggestion of cross-examination. It all depends upon the nature of the questions and the inference which the Court is entitled to draw therefrom, as to the intention of the parties to include or exclude such a matter in the reference."

Where an architect is called upon to arbitrate in reference to a matter in regard to which he is not empowered to deal summarily in his quasi-judicial capacity, or in a case other than a matter concerning his own work, he must do so formally, acting in accordance with proper procedure and having regard to all the proper rules of evidence. He must also correctly administer the law, because in case he goes wrong the Courts will revise his judgment on the submission of a special case to them. In order to assist him, either on technical or legal matters, the arbitrator is perfectly at liberty to seek outside

advice. If he does so he is not bound to act upon the opinion given, but may, if he wishes, adopt it as his own. In taking legal advice he should, of course, not employ the lawyer of either party to the arbitration.

We cannot cover in any detail all the grounds upon which an architect may go wrong in his award. It is enough to say here that the award must not exceed the submission; must extend to all matters referred to the arbitration; must be certain and must be final.

In concluding this Paper the author wishes to acknowledge the valuable assistance rendered to him by Captain K. G. Thomas, B.A., LL.B., Assistant Solicitor to the Burnley Corporation, who has offered many valuable suggestions in the course of the preparation of this paper and brought to the author's notice cases which have been included in the appendix and referred to in the text. Wherever possible the author has given case references to "Hudson's Building Contracts," which, being the standard work on this subject, will be more accessible to architects than the Law Reports.

## APPENDICES.

### (A) Cases illustrating the Contractor's responsibility in Lump Sum Contracts for unforeseen difficulties in construction and omissions and inaccuracies in the representations made in the plans and specifications.

#### (I.) UNFORESEEN DIFFICULTIES.

*Thorn v. Mayor, etc., of London* (1876), 1 A.C. 120.

In this case the building owners invited contractors to tender for the execution of certain works according to plans and specifications prepared by the engineer of the Corporation. The accuracy of the plans was not guaranteed, and the contractors were warned that they must satisfy themselves as to the nature of the ground through which the foundations were to be carried. Iron caissons were specified to be used in the construction of the works, but the contractors found that they would not resist the pressure of the water, and the plan of work had to be altered and the use of caissons abandoned. The contractors claimed for loss occasioned to them in attempting to use caissons, and contended that the Corporation had warranted that the work could be done by the use of them. The House of Lords held that no such warranty could be implied.

*Bottoms v. York Corporation* (1892), 2 H.B.C. 208.

Owing to the nature of the soil the contractor was obliged to reconstruct a sewer laid in accordance with the specification several times, and on being ordered again to reconstruct if he refused and withdrew his men. The Court of Appeal held that, as there had been no guarantee by the building owner or the engineer of the character of the soil, the contractor was not entitled to abandon the contract on account of the difficulties unforeseen by him.

See also *Macdonald v. Corporation of Workington* (1892), 2 H.B.C. 228.

#### (II.) OMISSIONS FROM SPECIFICATION.

*Williams v. Fitzmaurice* (1858), 2 H. & N. 844.

The contractor undertook to build a house for a lump sum payment in accordance with a specification provided. This specification made no mention of flooring, but it was held that as the contract was for a house complete and ready for occupation, flooring was impliedly included in the contract and must be supplied for the lump sum.

#### (III.) INACCURATE REPRESENTATIONS.

*Boyd & Forrest v. Glasgow and S.W. Railway* (1912), 49 S.L.R. 735.

The facts were as follows: It was discovered during the progress of the work that the nature of the ground was materially different from that which the plans and a journal of bores represented it to be, and it ultimately appeared that the borings had been taken by men who were unskilled in the work, and that the plans and journal of bores were compiled by the engineer from notes supplied by the borers. Moreover, in making the plans and preparing the journal, the engineer had, in several material instances, inserted not what the borers had reported, but what he, the engineer, had thought they meant. The journal of bores was supplied to the contractor, but the accuracy thereof was not warranted by the building owner.

The House of Lords in delivering judgment pointed out that it was established law that in order to sustain an action for deceit there must be proof of fraud and nothing less, and that fraud is proved only where

it is shown that a false representation has been made (i.) knowingly or (ii.) without belief in its truth, or (iii.) recklessly, careless whether it be true or false. They held that the action of the engineer in this case fell far short of fraud, on the ground that he "thought he was drawing a sound inference" in interpreting the report of the borers in the manner he did.

*Aird v. Trajang Pagar Dock Board* (1912), *Times* newspaper, Dec. 22nd.

The contractors brought an action to recover nearly a million pounds for the additional cost of excavation involved in the construction of a dry dock by reason of the condition of the material to be excavated. They based their claim on the misrepresentation of the building owners that trial holes had been sunk down to the hard ground. It was found impossible to reach the hard ground, and it transpired that no trial holes had in fact ever been sunk.

The action was brought before Mr. Justice Parker, who found the following facts:

(i.) That the contract drawings contained distinct and unambiguous representations to the effect that timbered trial pits had been sunk down to the hard ground, and that the usual method of timbering the pits—by runners and settings—had been employed.

(ii.) That these representations were material—i.e., that they were calculated to induce contractors of ordinary intelligence and prudence to tender at a less price than they might otherwise have done.

(iii.) That the contractors did in fact rely upon the representations.

(iv.) That the representations were untrue.

(v.) That certain of the engineers engaged by building owners were well aware that the trial pits had not been sunk to the hard ground but only to the level of the dock bottom.

(vi.) That the misrepresentation was entirely due to carelessness and inaccuracy, and that none of the persons concerned had any intention or desire to deceive or had knowingly made any misstatement.

Upon these findings of fact the learned Judge, following the decision in the previous case, held that no fraud had been established, and therefore the contractors could not recover.

On the other hand:

*Bush v. Port of Whitehaven*, 2 H.B.C. 122.

In this case the contractor met difficulties in the laying of water mains, but it was urged on his behalf that the difficulties were due to the fact that he had to construct the work during winter instead of summer months owing to failure by the employer to hand over the site of the works in proper time. Held, that the conditions of the contract were so changed as to justify the contractor treating the contract as at an end, suing for the cost of the work on a quantum meruit.

#### (IV.) WAR.

*Metropolitan Water Board v. Dick, Kerr & Co.* (1918), A.C. 119.

In this case the engineer was empowered to extend the contract time if any difficulties, impediments or obstructions should, in the opinion of the engineer, unduly delay the contractor. In 1916, in consequence of the war, the work was stopped on the instructions of the Ministry of Munitions. The contractors claimed that this stoppage put an end to the contract. The House of Lords held that this was so on the ground that the interruption caused by this stoppage was of such a character and duration as to make the contract when resumed a different contract from the original contract.

**(B) Cases illustrating the Contractor's responsibility for accuracy of Bill of Quantities as regards the Lump Sum portion of the work under contracts where there is no express provision for rectification or where the Bill of Quantities is not introduced in a particular way into the contract.**

N.B.—The R.I.B.A. form provides for rectification and also appears to come under the ruling in *Patman & Fotheringham v. Pilditch*.

*Sherren v. Harrison*, 2 H.B.C. 5.

Bills of quantities were incorrect, but were used by the contractor, who based his estimate upon them. The work cost £3,600, whereas the tender was only £1,998. It was held that all the work done must be deemed to be included in the lump sum.

*Scriven v. Pask* (1886), L.R., 1 C.P. 715.

In this case the architect took out the quantities and represented to the contractor that they were correct, but they were not made part of the contract and proved to be incorrect. It was held, however, on the facts, that the architect did not act as the employer's agent either in taking out the quantities or in guaranteeing their accuracy, and that the contractor could not recover more than the contract price.

*In re Ford & Co. and Bemrose & Sons* (1902), 2 H.B.C. 324.

In this case the work was to be carried out in accordance with plans and specifications, but a bill of quantities was also supplied and incorporated in a document headed "Specification and Bill of Quantities of Works referred to in the Agreement." It was held by the arbitrator (a) that the quantities of works required to be executed on the works exceeded those in the bills, (b) that the contractor did not verify the quantities and entered into the agreement on the assumption that they were correct, and (c) that there was a usage of the building trade that errors in the quantities should be rectified. The Court of Appeal, however, held that there was no implied warranty or representation of the accuracy of the bill of quantities and that the usage of the trade referred to would contradict the contract and that therefore the contractors could not recover.

On the other hand, however:

*Patman & Fotheringham, Ltd. v. Pilditch* (1904), 2 H.B.C. 368.

It was decided by Channell, J., that where the contract provided that the work should be carried out for a lump sum payment "according to the plans, invitation to tender, specification and bills of quantities," the bills of quantities provide the amount of work to be done for the lump sum, and if the contractor is directed to exceed that amount of work there is an extra to be paid for in addition to the lump sum. Mr. Justice Channell went to some trouble to differentiate this case from the one cited above.

See also *Bolt v. Thomas*, cited in Appendix C.

**(C) Cases illustrating professional responsibility of Architect.**

AS REGARDS SUPERVISION OF WORK.

*Armstrong v. Jones* (1869), 2 H.B.C. 6.

The jury in this case found that defective work on the buildings in question had been done by the authority or permission or by reason of want of reasonable skill, care and attention of the architect in the superintendence of the work. Judgment was entered against the architect for damages to the extent of over payment upon his certificate by reason of his negligence.

*Leicester Guardians v. Trollope* (1911), 2 H.B.C. 419.

The clerk of works in this case fraudulently allowed a floor to be laid without proper, or the specified precautions against damp, and two years after final certificate dry rot set in. The clerk of works had been appointed by the Guardians, but it was held by Channell, J., that the architect was entitled to leave the supervision of details to the clerk of works, but not a matter of the essential part of the design of the building, and that the architect was responsible.

AS REGARDS QUANTITIES.

*Bolt v. Thomas* (1859), 2 H.B.C. 3.

The architect supplied bill of quantities to tenderers on the condition that the successful competitor should pay for same. The plaintiff's tender was successful and he paid the architect for the bills of quantities, which proved to be inaccurate. Held by Byles, J., that the architect was liable to compensate the contractor if the bills were not reasonably correct.

AS REGARDS DESIGN.

*Saunders & Collard v. Broadstairs Local Board* (1890) 2 H.B.C. 164.

It was found in this case that the engineers had been guilty of gross

negligence (i.) in preparing plans not showing properly the works to be executed, (ii.) in allowing concrete composed 1 to 10 to be used for construction of sewers, and (iii.) in over-certifying the quantity of work done. Held that the engineers were liable in damages to the building owners for the full value of the loss and their liability was not limited to the amount of their fees.

See also *Rogers v. James*, cited in Appendix J.

**(D) Cases illustrating result of failure by Architect to issue plans and instructions.**

*Trollope & Colls v. Singer* (1913), 1 H.B.C. 849.

In spite of repeated applications to the architect by the contractors for plans, instructions and information to enable them to carry out the work, there was such delay in giving the same that the arbitrator found as a fact that the contractors' work was hindered and disorganised and executed in a piecemeal manner, with the result that the cost to the contractors was materially increased. The contractors claimed damages, and in the employer's defence it was pleaded that the architect had extended the time to cover all delays arising under the contract. It was held, however, by Channell, J., that although the architect could extend the time to cover breaches of contract by the architect, the extension of the time did not deprive the contractor of his remedy for damages for breach of contract, and gave judgment against the employer for damages occasioned by the delays referred to.

*Roberts v. Bury Commissioners* (see Appendix L).

*Wells v. Army and Navy Co-operative Society* (1903), 2 H.B.C. 346.

In this case it was proved that there was delay in giving possession of the site of the works, in supplying working plans and details generally, and by interference of the architect in the manner in which the different parts of the work were to be proceeded with. In spite of the fact that the contractor also had been guilty of delay in the execution of the work the Court of Appeal held that the delays caused by the architect or employer destroyed the employer's right to the payment of penalties or liquidated damages.

**(E) Case illustrating waiver of terms of contract.**

*Laidlaw v. Hastings Pier Co.* (1874), 2 H.B.C. 13.

In this case the engineer issued a final certificate without deducting any penalties for delay, which under the contract he was entitled to do. Moreover, the engineer included payments for work which had not in fact been done at all, and also for extras which had not been done on signed orders. The contractor sued on the certificate and the employers in their defence set off penalties and over-payments. The Court of Exchequer held that the final certificate was an extension of the contract time and the payment by the employers of progress certificates without deducting penalties after they had accrued was a waiver of the penalty clause: that the final certificate of the engineer precluded the employers disputing whether extras had been done or whether ordered in the specified manner, and that the facts of the case showed that the engineer's decision in giving his final certificate was a settlement of all differences which had arisen.

**(F) Case illustrating waiver of guarantee by Architect.**

The facts of an unreported arbitration known to the author were as follows: Under the contract by which a firm of reinforced concrete specialists contracted to carry out the erection of a concrete football stand the contractors gave a guarantee of the efficiency of the stand to withstand a given test load. The work was delayed in completion and the employers were anxious to use the stand for the purpose of a football match. A test was applied over one panel of the stand, and under the test some cracks developed, but were found by the arbitrator to be due to defective workmanship and not to constitute a proper test within the terms of the guarantee. The architects, however, without making other tests and in great anxiety for the safety of the stand, called in a consulting expert, who advised a wholesale propping of the stand before the match. This propping the contractors were ordered to do. They protested on the grounds that the propping would seriously prejudice the structure by placing extra stresses on the various members of the structure from those they were designed to withstand. The architects, however, insisted upon the propping being carried out, and the contractors sued the employer for the cost of the work and also of the propping. The employers in their defence pleaded the guarantee of efficiency. The arbitrator, however, held that the architects by their action had waived the guarantee and gave an award in favour of the contractors. (Compare *Holme v. Bonskill*, 38 L.T. 838, and other cases of suretyship under which any change in the terms of the contract which might prejudice the surety have been held to release him.)



**(G) Cases illustrating authority of Architect to order work.***Randell v. Trimer* (1856), 118 C.B. 786.

In this case the jury found that the architect had neither implied nor expressed authority of the employer to order material and that he represented to the contractor that he had the necessary authority. Held, that the architect was responsible not only for the cost of the material but also for the costs to the contractor in this action against the employer, which had failed.

*Robertson v. Jarvis*, 45 S.L.R. 280.

In this case the architect gave a certificate for an amount which included certain payments for extra work under a lump sum contract. The employer refused to pay and was sued by the contractor upon the certificate. In defence to the action the employer pleaded that the architect had no power to order the extra work referred to. It was held that after proof that the architect had ordered the work the contractor was entitled to payment. Lord McLaren said:

"I think that there can be no doubt that within the scope of his employment an architect is the proprietor's agent; and if the building contract provides that the work is to be done to the satisfaction of the architect, then any order within the scope of the contract which the architect may give is a sufficient authority to the tradesman to execute the work, because he is entitled to take the order of the agent as equivalent to the order of the principal."

*Ramsay & Son v. Brand* (1898) 35 S.L.R. 927.*Steel v. Young* (1907), 44 S.L.R. 291.

These two cases were commented upon in the case of

*Forrest v. Scottish County Investment Co.* (1914), 52 S.L.R. 66,

and in all three cases the architect had approved variations from the specification without there being, under the terms of the contract, any express authority for him to do so. In each case, however, the contract required the contractor to carry out the work to the satisfaction of the architect. In the latest case the Lord President said:

"The sanction of the defendants' architect does not, I think, justify deviation from the contract, for, as Lord Robertson observed in the case of *Ramsay v. Brand*, the architect to whose satisfaction the work has to be done cannot approve of work done in conformity to specification, for without special permission he has no authority to dispense with performance of the express terms of the contract."

See, also, *Hampton v. Glamorgan County Council* (Appendix H).

**(H) Cases illustrating relationship between Employer, Contractor, and Specialist.***Hampton v. Glamorgan County Council* (1917), 33 T.L.R. 58.

In this case £450 was provided in a building contract as a provisional sum for heating apparatus. The architects asked the plaintiffs to tender to the contractor for this work, and, after tendering, the plaintiffs received a letter from the contractor saying that he was directed by the architects to state that this scheme was approved. The plaintiffs carried out the work and received a payment on account from the contractor, the architect refusing on application being made to him to give a certificate for direct payment. The contractor became bankrupt and the plaintiffs sued the employer for the balance. Held by the House of Lords that the employer was not liable and that neither the builder nor the architect had authority to pledge the employer's credit and that the contractor was not the agent of the employer to employ the plaintiff. Lord Shaw said that there was no presumption that the effect of a clause as to provisional items generally made the building owner the real principal upon the contract under which the particular things were supplied.

*Hobbs v. Turner* (1902), 18 T.L.R. 235.

In this case the Court of Appeal held that the employer was liable for the value of work done by specialists, and the judgments in *Hampton v. Glamorgan* did not overrule this case, which can be differentiated on the grounds that the architect gave a certificate against the employer in favour of the sub-contractor.

*Ramaden & Carr v. Chessum & Sons* (1913), 30 L.T. 68.

In this case the architect ordered door furniture from the plaintiffs and informed the defendants, who were contractors for the building work, that he had so ordered them. The contractors used the goods supplied, and it was alleged that the architect had included a sum for these goods in a certificate in favour of the contractors. The contractors, however, denied their liability on the ground that the architect was not their agent in the matter and they denied that it was their duty to supply door handles under the contract. The House of Lords held that the contractors were liable on the grounds that as they had accepted and used the goods there was an implied promise to pay for the same.

**(J) Case illustrating that an Architect, by exercising judicial functions, cannot rid himself of liability for negligence in acting as agent for the employer,***Rogers v. James* (1891), 2 H.B.C. 172.

An architect whose certificate was final in all matters as between the employer and the contractor set up as a defence to a claim for negligence in the supervision of the work on behalf of the employer that he had taken all defects in the work into consideration in certifying the final amount due and had deducted a sum in respect of them. The Court of Appeal, however, held that though the certificate was binding as between employer and architect, this did not preclude the employer from recovering damages against the architect in respect of negligence of supervision.

**(K) Case illustrating importance of independent action by Architect in exercising judicial functions.***Roberts v. Hickman* (1909), 2 H.B.C. 426.

In this case payments were to be made to the contractor on the certificate of the architect. In addition, the architect had other quasi-judicial powers under the contract, though there was a reference to arbitration in case the architect's decisions did not meet with the approval of the contractor. When pressed for a certificate by the contractor, this architect discussed in correspondence with the employer what amount, if any, should be certified, and eventually refused, on the employer's instructions, to give any certificate until the final one. The House of Lords held that the architect must throughout the period of construction preserve a strict attitude of judicial independence in regard to such matters, and if he failed to do so he is no longer fit to be a judge and his certificate will fall to be either a final adjudication or a condition precedent to payment. The Lord Chancellor said: "I think the real error of the architect was that he mistook his position; that he meant to act as a mediator; that he had not the firmness to recognise that his true position was that of an arbitrator and to repel unworthy communications made to him by the building owner."

*Page v. Llandaff and Dinas Powys R.D.C.* (1901), 2 H.B.C. 1901.

The surveyor to the Council was, under the contract, the final judge as to values and amounts of work done, but during the construction of the work disputes arose in regard to which there were protracted negotiations for settlement. The Council took part in the disputes, but instead of calling upon the surveyor to make a decision, called upon him to make reports to their meetings of what he thought a fair and right settlement, which he made. No settlement of the dispute having been arrived at, the surveyor issued his certificate. Held by Channell, J., that the surveyor had "surrendered his judgment" and that his decision could not stand.

**(L) Case illustrating result of failure to exercise judicial functions.****FAILURE TO EXTEND TIME.**

Quotation from "*Hudson's Building Contracts*," vol. 1, p. 528.

"Where there is power to extend the time for delays caused by the building owner, and such delays have in fact taken place but the power to extend the time has not been exercised, either at all or within the time expressly or impliedly limited by the contract, it follows (unless the builder has agreed to complete to time notwithstanding such delays) that the building owner has lost the benefit of the clause, as the contract time has in such case ceased to be applicable; there is no date from which the penalties can run and therefore no liquidated damages can be recovered.

"Where there is not merely a power to extend the time for completion but a covenant that the architect or engineer shall, in certain events, extend the time for completion then it would seem that if delays have taken place in respect of which the covenant provides that the architect or engineer shall extend the time, and he has not complied with the covenant, the time for completion is at large, and in such case it would seem that this is so, even if the delays which have occurred were delays for which, but for the covenant, the contractors would have been responsible in accordance with his obligation to complete in time.

"Such power of extending the time must be exercised at the time in the manner and by the person provided for by the contract. Failure to duly exercise the power when delays have been caused by the building owner will deprive him of the right under the liquidated damage clause which might have been preserved and kept alive."

*Westwood v. Secretary of State for India* (1863), 7 L.T. 736.

The engineer had power to extend the time for completion, but did not exercise it, although the defendant had ordered extra work. It was

held that the defendant in ordering extra work had by his own act rendered the performance of the contract impossible within the stipulated time, and that he was not therefore entitled to set off penalties, although there had been no extension of time by the engineer.

*British Thomson Houston & Co. v. West* (1903), 10 T.L.R. 493.

Mr. Justice Phillimore quoted with approval the following extract from Mr. Hudson's work on Building Contracts:

"If the architect gives a final certificate without any deduction for penalties it will be presumed that he has extended the time, unless it is so proved and admitted that the matter has not been determined by him or was not expressly or implicitly within his jurisdiction."

See also *Trollope & Colls v. Singer* (Appendix B).

#### EFFECT AS TO FORFEITURE.

*Walker v. L. & N.W. Ry. Co.* (1876), 1 C.P.D. 518.

In this case there was no power to extend the time, but after it had expired the contractor still proceeded with the work and the contract time of completion was disregarded. Under the forfeiture clause the engineer had power to give notice of determination of the contract if the contractor failed to proceed with the work at the rate of progress required by him. It was held, however, that forfeiture could not take place after the time originally fixed for completion had expired. *Semble*. In cases where power is given to extend the time but no extension is made, no forfeiture can be made.

*Roberts v. Bury Commissioners* (1869), L.R. 5 C.P. 310.

Delay by the architect in the supply of plans and drawings, the setting out the work, and giving instructions to enable the contractors to carry out the work, was alleged. There was power in the contract for the architect to extend the time, but the architect made no extension under this power. It was held that the architect's default was the breach of contract by the defendants which prevented them from putting into operation the forfeiture clause, and that the contractor was not obliged to accept whatever extension of time the architect was pleased to make.

#### FAILURE TO CERTIFY.

*Kellett v. New Mills U.D.C.* (1900), 2 H.B.C. 330.

The jury found that the works had been completed by the contractor and that no certificate of completion had been given, that the engineers never addressed themselves to determine and certify that the works had been completed or what was the sum due to the contractor, but that they had refused or delayed so to determine and certify. They further found that the building owners were aware of such refusal or delay and took advantage of it to refuse or unreasonably delay payment. Upon these findings by the jury the judge gave judgment for the contractor.

### (M) Cases illustrating the finality of decisions of the Architect as to what are extras under certain Contracts and lack of finality where there is reference to arbitration in case of dispute.

*Goodyear v. Weymouth Corporation* (1865), 35 L.J. C.P. 12.

The contract provided that no deviations in the way of extras or omissions should be made without the written consent of the architect; that no claim for payment for extras should be made without such written order being produced; that proportionate payment should be made from time to time on a certificate of the architect that the payment was a proper one and that the architect's opinion as to the value of extras and additions was to be final. Held by Willis, J., that the certificate of the architect was an answer to all questions, both as to the claim for extras and the claim for works said to be independent of the contract.

*Nott v. Cardiff Corporation*. (House of Lords, not yet fully reported.)

The contract provided that the Corporation were not to become liable for payment of additions, alterations or deviations unless instructions for them were given in writing by the engineer. There was, however, an arbitration clause referring disputes "as to any objection by the contractor to any certificate, finding, decision, requisition, or opinion of the engineer" to an independent arbitrator. During the course of the work disputes arose owing to the engineer's refusal to give an order in writing for certain work which became necessary, which, however, he directed should be done. The contractor carried out the work without the written order but claimed arbitration of the dispute. The arbitrator found that the work referred to was an "extra" and awarded the contractor a sum in respect of it. The Corporation thereupon took the legal point that the order in writing of the engineer was a condition precedent to their liability for payment and that the arbitrator had no power to dispense with this condition

and therefore no power to make an award. Held, that the award by the arbitrator took the place of the order in writing refused by the engineer and that the contractor was entitled to judgment for the amount of the arbitrator's award.

### (N) Cases illustrating the manner in which an Architect may become disqualified from acting as sole arbitrator appointed by the contract.

(i.) *Nuttall v. Manchester Corporation* (1893) 8 T.L.R. 513.

An application to stay proceedings and refer the matter in dispute to arbitration. It was arranged under the contract that no extra payment was to be made for timber left in the trench unless directed to be left by the city surveyor. In consequence of withdrawing the timber subsidence happened. Disputes arose over the question of the cost of putting right the sewers. The Court held that the matter was not one which ought to be decided by the city surveyor, because his professional capacity was to some extent at stake. There was also the fact that at a certain period there was great friction between the surveyor and contractor. It is clear, from the judgment of Lord Esher in *Eckersley v. Mersey Docks and Harbour Board*, that the Court of Appeal laid particular stress upon the "unseemly personal dispute," and that otherwise the case would be now overruled.

(ii.) *Freeman v. Chester R.D.C.* (1911), 1 K.B. 783.

An application by the building owner to stay an action and refer the matter to the arbitration of the engineer. The question in dispute was whether the engineer had not precluded himself by his own admissions from asserting that the works had not been completed to his satisfaction and that the period of maintenance had not expired. Held by the Court of Appeal that the engineer was not a proper person to determine this matter, as his cross-examination was essential.

(iii.) *Aird v. Bristol Corporation* (1912), 28 T.L.R. 278.

The matters in dispute, amounting to one-quarter of the total claim, were alleged by the contractors to have been the subject of special agreement between them and the engineer acting for the Corporation. The engineer denied the existence of such agreements. The Court of Appeal refused to stay the action, on the ground that the dispute contained matters dependent for their determination upon the engineer's correct recollection of the alleged agreements.

(iv.) *Blackwell v. Derby Corporation* (1909), 2 H.B.C. Supplement.

In defence of an application to stay an action brought by the contractors, affidavits were sworn on behalf of the contractors that the engineer (an official of the Corporation) had acted unreasonably in the following manner: (i.) By repeated alterations and amendments of the drawings after the contract was signed; (ii.) by delay in the delivery of material supplied by other contractors; (iii.) by delay in deciding upon the detailed form of construction; (iv.) by delay in furnishing drawings; (v.) by making alterations in the mode of performance of the contract; (vi.) by refusal to allow the contractors to put their materials ahead of the work on the footpath; (vii.) by rejection of suitable material. Upon these affidavits the Court of Appeal decided that the real dispute was between the engineer and the contractor, and that the engineer was not therefore a proper person to act as arbitrator. The Court therefore refused to stay the action and refer the matter to arbitration.

(v.) *Roberts v. Hickman* (see Appendix K).

(vi.) *Doleman & Sons v. Ossel Corporation* (1912), 2 K.B. 287.

The plaintiffs brought an action against the defendants for sums due under the contract. The defendants did not apply for a stay of proceedings in the action under section 4 of the Arbitration Act, 1889, but subsequently to the commencement of the action the defendants' engineer under the Arbitration Clause, without giving notice to the parties and without the knowledge or consent of the plaintiffs, made an award. Held, that it was not competent for the engineer to determine the matters in question pending the action, and that therefore his award was no bar to the plaintiffs' claim in the action.

(vii.) *Pethick Bros. v. Metropolitan Water Board* (1911), 2 H.B.C. 456.

The engineer had certified under the forfeiture clause that the contractors were not proceeding with the work so as to ensure completion in contract time and the defendants gave the contractors notice determining the contract. The contractors brought an action for wrongful forfeiture, and the defendants sought to stay it on the ground that matters in dispute were to be referred to the engineer "in case the contract shall be determined" by forfeiture. Held by the Court of Appeal that as the dispute was as to whether or not the contract had been determined the engineer could not arbitrate on the matter on the ground that his position as arbitrator was only established when the contract had been determined.

## DISCUSSION ON THE FOREGOING PAPER.

MR. WALTER CAVE, Vice-President, in the Chair.

Mr. MAX CLARKE [F.]: I should like to propose a very cordial vote of thanks to Captain Rimmer for his paper. He has put the matter more clearly than I have seen it in print before. He has brought to the notice of us all—those who are here and those who will read his Paper in the JOURNAL—the fact that the architect must be not only an architect, he must be what I term an honest man. He cannot carry out his duties as an architect unless he is absolutely honest: he cannot exercise his duties in a quasi-moral capacity as arbitrator without being absolutely honest. And I think if we were to try to forget at times that we are employed by the building owner, and be under the impression that we were carrying out the work as a sort of independent person, to exercise thorough fairness between the contractor and the employer, it would be to the advantage of all concerned. Of course, this paper is a statement, in very excellent terms, of what are, more or less, facts, and it is impossible, really, to criticise it from a critical standpoint. Still, there are some points in it which seem to me to form subjects for discussion, and perhaps be the occasion to extract some further information from Captain Rimmer. Lump-sum contracts are, as he said, the most usual, and I am a little surprised that the author has not mentioned an item which seems to exist, more or less, in every specification, and that is, that the contractor is called upon to take the responsibility for everything which is omitted from the specification, although shown upon the drawings, and which may be included in it and not shown on the drawings. That has always seemed to me rather unfair. I take it that when you have a definite lump-sum contract it should be for what is shown upon the drawings and what is included in the specification, neither more nor less. Of course everyone has to take a certain amount of risk, and it appears to me that the employer should not be so absolutely absolved from risk as some people think he ought to be. It is not fair or honest. Consequently a lump-sum contract which has not a schedule of quantities appended to it—not as a portion of the contract, but as a sort of schedule for variations—is rather unfortunate: I will put it like that. But, as Captain Rimmer remarked, even with a lump-sum contract the document which has been prepared by the R.I.B.A. and agreed to by the Institute of Builders contains a clause in which variations are made permissible. But that clause, so far as I recollect, also provides that those variations should be priced out, if there be no schedule, to the best of the ability of the individual who has the conduct of the job, whether he be a quantity surveyor or whether he be an architect. I now pass to a point I do not quite understand—no doubt because of my stupidity. I do not know

whether Captain Rimmer means by "schedule contract" a contract which includes a set of drawings, a specification, and a bill of quantities—that is, which includes all three. That seems to me to be the fairest method in regard to building operations: that the client shall prepare a series of documents, and that they shall show the contractor exactly what is supposed to be done, neither more nor less, and that if the work can be carried out—it seldom is—exactly as it was intended, that is the amount which the contractor shall receive, neither more nor less: but that for everything which is omitted there should be an omission in the price, and that for everything that is added there shall be an addition to the price. It does not absolve the contractor from any of those liabilities which he undertakes, for instance—an extreme one—third-party risks. It does not relieve a contractor from that sort of thing, but it does relieve him from a great deal of the cost of variations. The employer knows exactly for what he is going to pay, and he cannot have any more without paying extra for it. And the contractor knows that if anything is omitted from his contract, that will not be paid for. I am fond of saying to my contractors, "You shall be paid for every nail you drive: every one which you do not drive you shall not be paid for." I have not seen some of the forms of contract described in the early part of Captain Rimmer's paper. In my opinion most of them appear to be an expression of the contractor's desire to evade all his responsibilities. Those are, very largely, suggested by the contractors, and of course it will be the duty of the architects to inform their clients or their employers what they are entering into when they agree to one of these documents. In this draft, under the head of "Schedule Contract," there is one point which Captain Rimmer has not mentioned. He says: "The disadvantage to the employer in such a case that he relies entirely upon the completeness of the bill of quantities and the careful anticipation by the architect and quantity surveyor of all the items of work which will be required for the carrying out of the work. It transfers the risk of unforeseen accident and difficulties from the contractor to the employer. At the same time it means that the employer will pay only for work which is actually done." If I read the whole paragraph aright, it is one which is, perhaps, in more general use in Scotland than in England, or in this part of England: that is, that the whole of the work is measured up on its completion. If that be so, I find a universal objection amongst clients to pay for the cost of measuring up. If that is intended by this clause I should like to hear Captain Rimmer's views on this point. For if that be the intention, it has always appeared to me that the measuring up should be shared between the em

ployer and the contractor. Frequently it is done by the employer, and the contractor declines to contribute any sum whatever, and to that the employer very much objects. As to the latter portion of that paragraph, which commences "One point should be especially emphasised in regard to such a contract in connection with comparison of tenders," that is an excellent clause, and I congratulate the author on putting it in that particular form, because, as he himself says, it is absolutely useless to compare tenders if you do not consider the particular items. Of course, all contractors are absolutely honest, but there are a great many of the people they employ who are not quite so honest. It is quite well known that frequently oak doors have been priced at the price of deal doors, and the deal doors, in the bill of quantities, have been priced at the price of oak doors, because the contractor, in some way, had a sort of inkling that there would be a change. A little time ago I heard, from a well known member of this Institute, that a house he was about to build was originally intended to be built of stone brought from a distance, and he thought he would save a fair amount of money because it was eventually decided to use stone quarried on the estate. But when he came to examine the prices on the completion of the work, he found matters actually reversed, for the employer had lost a lot of money on the stone. That emphasises the remark of Captain Rimmer here, which I think everybody should bear in mind. The prime cost *plus* profit contract is, to my mind, the most inadvisable contract which a client could enter into. It is not only the contractor who is slack under it, but one sees that the moment the men are aware that the contract is being carried out at prime cost *plus* profit, every one becomes slack—and it means that the client has to pay at least 25 per cent. more for the work. My view is, that this sort of contract is suited only for a Government department, and I think that this has now been generally recognised as a result of the enquiries which are being made. The author says "That the contract should make the material, rates of wages to be paid to the contractor's staff, and the hire prices for machinery and plant, a condition precedent to payment of these charges." Everybody knows that one contractor may make much more money than another if he secures contracts for materials in advance, and unless the client be informed of such advance contracts he is much at a loss. I should like Captain Rimmer to tell me whether there are not two sorts of sub-contractors. We all know there are many operations in the building trade which are not carried out by the original contractor, but by sub-contractors employed directly by him. The other kind of sub-contractor is one who has been specially advocated or recommended, or whom the contractor is directed to employ. Am I correct in assuming that the latter is the type of sub-contractor to whom Captain Rimmer referred? [Captain Rimmer: Yes.] At the end of the same paragraph it is said that "It appears, therefore, that an architect

should always refuse to certify in this way and should provide for payments to be made to sub-contractors by the contractor." There have been deputations to this Institute from large bodies of sub-contractors anxious to have that arrangement abandoned, as they would prefer to be paid direct, because sometimes, although the chief contractor receives the money, he does not pay it over at once to the sub-contractor, which is very unfortunate. I am particularly glad of the remarks on arbitrations. I have often to do with them, and frequently find that neither the client nor the contractor will realise that an arbitration should be entered upon in a perfectly legal manner. I have a series of letters lying on my table at the present moment which refer to an arbitration, and if I were to begin the case on those letters, as it is imagined I am to do, I should be in the most hopeless confusion. So far as I see, all I can do is to put some form of reference before the parties, and if they do not care for it, I must give up the case. In speaking of this subject, Captain Rimmer says "Where there is an arbitration clause giving power to the contractor to have the matter referred to an independent arbitrator, in case he disputes the decision of the architect, the arbitrator's award will take the place of any decision made by the architect, and the fact that the architect has refused to give an order in writing for extras does not preclude the arbitrator from awarding payment for extras." If that was not mentioned in the reference would it apply—I am not speaking of the R.I.B.A. form, because that states it shall apply—if one had an ordinary arbitration without any contract, practically speaking, I ask, would that apply?

Mr. H. D. SEARLES WOOD [F.], in seconding the vote of thanks, said: I should like to mention that we drew up the Revised Form of Contract with the idea of including in it the architect's point of view, and when it came before the builders we presumed they also would have their views, so that the fusion of those two would result in proper, standard conditions. But we have decided entirely in favour of the lump-sum contract in that standard, always having had it in our form. We had these fancy conditions before us, as I think I may call them, but none of them seems to suit the practice of architects, certainly not those practising in the South. Consequently we have not proposed to put either a fixed profit or any of those other forms of contract mentioned before our members. The most recent form we have had suggested was that in which the quantities were taken out and an estimate arrived at on present prices, the builder's profit being based on that estimate; and in the event of any advance in the labour bill or in materials, the contracts for which were not confirmed on the date of the contract, those should be paid for at actual cost price. The contractor gets no profit on extras arrived at in that way. But if, by careful working and management he can succeed in producing the building for less than the estimated sum, then he takes his percentage on whatever he saves. So



there is a strong inducement for him to work economically under such conditions.

Mr. DELISSA JOSEPH [F.]: The real value of Captain Rimmer's very able paper lies in its warning of the serious responsibilities which rest upon us. And it seems to me clear that the attempt made at a recent meeting, when the question of professional fees and responsibilities was under discussion, to whittle down the responsibilities of the architect, against which I took the opportunity of protesting, was extremely unwise. It is also clear that if these burdens and responsibilities which Captain Rimmer has pointed out do fall upon the architect, then those burdens are not contemplated by the schedule of professional charges with its limitation of professional liabilities as at present drafted by the Council. When you reduce the matter down to a simple form, what is the result? The architect has these responsibilities, whether he seeks to evade them by presenting to his client the printed form of the Institute before he commences the work, or not; he must carry these responsibilities upon his shoulders. Now, how can he carry them so as to minimise the element of personal responsibility? That is the point to which, it seems to me, we might profitably address ourselves for a moment. The warnings offered us by the reader of the paper do not simply call—as the proposer of the resolution suggested—for honesty; that is a quality in the architect which we take for granted; but they call for the architect to be something of a lawyer, and, what is even more important, a man of affairs. This is the keynote of the method of facing and meeting the difficulties which present themselves as to the legal interpretation of building contracts. If an architect will add to his other studies some consideration of problems of law, and if he will develop the habits and methods of men of affairs, he will find that the great difficulties which have been pointed out by the reader of the paper can be largely minimised. If I may intrude upon the meeting a matter of personal experience, I would relate the method I have adopted, during my practice of 36 years, to meet these points. In the first place, everything I am concerned with has always been put into writing. If a client calls for a variation in a contract, I first ask for an estimate for the variation; and I submit the estimate in writing to the client. Then I get the client's written authority and acceptance of the estimate, and, having received that, I send a written authority to the contractor to get on with the work. There may be conversations, there may be discussions, there may be conferences, there may be meetings, there may be telephone conversations; but in the end, whatever is the outcome is put into writing in the form of a letter. And I go further: I send the client a duplicate copy of all the orders which, under his authority, I have sent to the contractors. Consequently, at the completion of a large job, my files may run to ten or twelve volumes, which is a serious undertaking. It requires organisa-

tion of the staff, and patience, but its effect has been that, in 36 years' extensive and very varied practice, I have never had a disputed builder's account, because I have always had my *dossier* complete, and it has been merely a matter for a quantity surveyor to go through my correspondence folios and extract from them the specific orders for the specific variations. Therefore I submit that the lesson of the valuable paper we have heard to-day is, that as it is clear there are serious burdens and responsibilities which we know are placed upon the architect, and that as those burdens are likely to increase rather than diminish, we should endeavour to meet them by a system such as I have outlined, involving the reduction of all the incidents of a contract into writing. It means the adoption in professional work of the methods and organisation usually associated with the conduct of ordinary business. Touching the question of interpretation of contracts, I can recall an instance in which I was called in, as an independent arbitrator, to settle a builder's complex account on a large contract. I sat 17 days taking evidence, and it took me four or five more days to read through and get my notes in order and make my award. A very deep impression was left on my mind by that arbitration, namely, that had the parties to the contract adopted a system of record during the course of the work, such as I mentioned earlier in my remarks, no arbitration would have been necessary. It is chiefly because of the tendency to depend on memory, on intentions, on conversations, with no adequate records, that these troubles arise. I think, therefore, that the reading of this paper, by bringing vividly to our minds the true responsibilities which fall upon us and which we have to face and to carry, warns us to put our offices into such order, so organising our work, so reducing it to commercial lines, that we shall not find ourselves in a position in which our burdens and responsibilities are out of proportion to the risks we run or the remuneration we receive.

Mr. PERCIVAL M. FRASER [F.]: There are one or two questions I would like to ask the reader of the paper. First, I would say I think the paper would be greatly improved—excellent though it is—by sub-headings to the main headings, so distinguishing the different forms of contract. Even Mr. Max Clarke, astute and shrewd as he is, is in some doubt as to the meaning of contracts which are merely mentioned in this form. Lump-sum contract, and schedule for extras, are not terms which are usual with architects. The author takes it for granted that we know what he means. I am afraid I, for one, do not follow either of those two headings. Still less did I understand what was intended when I read with him his remarks about them. Therefore, I ask that he will put the precise description of the contract which he has in mind under the headings of his paper. This would enable readers to follow it much better. In the nomenclature used for describing the contracts, I think he would be well

advised to find out what the architects themselves call the contracts under which they work. On page 2, under "Lump Sum Contract," he speaks of "alterations, additions, deductions or deviations." Is there any difference between an alteration and a deviation? I find those words used together, but I think "deviations" is redundant. In fact, it is rather worse than redundant, because it suggests to one's mind some new trouble which fortunately does not exist. Under the heading "Schedule Contract," the author says that the contract of the R.I.B.A. may become a less favourable contract to the employer than a purely schedule contract. I am not clear as to what he means there. I think it is agreed that the fairer and clearer the contract terms are, the keener the prices will be, to the greater benefit of the client. I should like to have some explanation of paragraph 3, under the heading "Prime Cost *plus* Profit Contract." The author says: "Where the profit to the contractor is a percentage profit, that is, a percentage on the whole cost of the work, the contractor will take no responsibility whatever as regards economy, and the architect—unless the building owner employs a quantity surveyor for the purpose—must assume certain responsibilities." I cannot conceive why the quantity surveyor has been brought in there. I take it the author has no particular affection for fixed profits, so I need not labour a point which has already been ably dealt with. I find the case described on page 175 a rather suggestive one, namely, the failure of a concrete structure after the architect has criticised the design. The author says it is "unreported." Does he mean it has come before the Courts, or that it has been arbitrated upon? I presume there is a report on every case, so that it can be got at? ("No.") I should have liked the author to say more on the subject of the financial liability of the architect. Much doubt on the subject exists in the minds of architects. Many say an architect ought never to be financially responsible for anything which goes wrong. If the author thinks, as clearly he does, that the architect is often financially liable, I wish he would emphasise that fact in the paper. Mr. Searles Wood gave us some interesting information about the revised Form of Contract. He says the Committee have gone all the time for a lump sum contract, and then he went on to describe it, and yet, from his description, it is not a lump sum contract. A contract where quantities form part of the contract document is no longer a lump-sum contract. I should like to ask if Mr. Joseph has a stereotyped form for extras, omissions and variations. If so, I wish he would give it to the meeting for the benefit of the younger members.

Mr. WALTER CAVE: Before I put the vote of thanks, I would make one remark. One thing which struck me forcibly in the paper is the remark on the first page as to the importance of exercising the utmost fairness in decisions. I think it is often the case, especially amongst clients, that they look upon the

contract merely as a form to protect themselves; and the architect should never lose sight of the fact that the builder also needs protection.

Captain RIMMER: I think some of the difficulties of the last speaker will most likely be cleared for him if he will refer to the Appendix, which sets out some 40 or 50 cases containing the facts and decisions in support of the propositions stated in the baldest manner by me in my paper. Although I appreciate very much the cordial manner in which you have received my paper, I do not think you can pass final opinion upon it without having some reference to the Appendix. In writing it I was faced with this difficulty: I had either to write a paper on a particular part of the subject, or else I had to cover, as far as I could, the whole of the ground, and deal with the details to supplement bald statements of opinion in the form of an Appendix. This latter is the course I have adopted. But there is one great difficulty, apparently felt by more than one speaker, and which I shall forthwith try to disperse, as I shall also do when revising my proofs, namely, as to the different kinds of contract in existence. I look upon the matter in this way. First of all, you have a purely lump-sum contract, without any bills of quantities provided at all. That is a contract on which the contractor will tender merely upon the specification and the plan. Under that contract he takes all the responsibility for the accuracy of your plans and the representations made on those plans, unless he satisfies himself—in fact the phrase is often used in contracts that the contractor must satisfy himself—as to the accuracy of the plans. He takes the fullest responsibility for unforeseen difficulties, because he has to carry out all the work required in the plans. The second form of contract is a lump-sum contract with a bill of quantities intended for use in connection with variations and omissions from it. This will not be used at all if the contract proves to be a contract under which the work scheduled in the bill of quantities is carried out without alteration, because under it the contractor will be paid the lump sum. But if there is a variation of the amounts described in the bill of quantities or, under the R.I.B.A. form, there is an omission, it will be valued in accordance with the prices in the bill. That is a lump-sum contract with a bill of quantities incorporated in the contract. There is a third form of lump-sum contract, with a bill of quantities expressly stated to be outside the contract, in which the contractor can take the bill of quantities as an estimate from the architect in arriving at a lump sum, but under that contract there is no right by the contractor to have any omissions which the architect may have made in compiling it made good to him by being dealt with as variations. That is a very common form of engineering and municipal building contract, and whereas under the R.I.B.A. form the contractor is rid of all responsibilities for omissions in the quantities, and he can base his estimate upon them without examining the plans,

or even seeing the site, he cannot do so in the case referred to. If bills of quantities are not expressly or impliedly included in the contract, and if the contractor estimates upon them and finds them to be wrong, and further, if there is no "12a clause" in the contract, it has been held, over and over again, that he has no right to claim for work extra to the quantities, because neither the architect nor the surveyor, nor yet the employer can be held in law to have warranted their correctness. The Society of Architects' form reverts to the old type, and, therefore, is reactionary in that respect. On the other hand, a purely schedule contract is one where the bill of quantities constitutes the whole of the terms of the contract affecting amount and description of work and after the execution of the work it must be entirely measured, and the amount paid to the contractor will be arrived at by a multiplication of the units of work so measured by the rates in the schedule. I said—and I said it after careful thought—that this may become a more favourable form of contract than the existing R.I.B.A. form if all the responsibilities of the contractor under this form are ameliorated. You say you prefer work on a lump-sum contract, with measurements for variations only. The work you get for your lump sum, in addition to the items of constructional work, is all that is necessary for carrying out the contract; shoring, for instance, in excavation, watching, insurance, and a dozen other things, all these are included, not as provisional sums, but as part of your lump sum. You get something for your money outside the items of work under a lump-sum contract. If, however, all those items are put into the quantities, as I have seen it urged they should be, the contractor will tender upon a complete schedule, and yet be paid a lump sum at completion. This will mean that if your quantity surveyor gets out his quantities "lean," the contractor will be paid for omissions; but if he gets them out "full," the employer has no remedy, because he has not any opportunity of remeasuring the work on completion. Therefore as the schedule contract requires complete remeasurement this system may become very much more favourable to the employer than a lump-sum with a very complete schedule of quantities in it. In reply to Mr. Max Clarke's question, I was speaking of the specialists when I referred to sub-contractors, the second type he named. The same principle would apply to any form of contract, only more so, because that would be a direct sub-contract with the contractor. The specialist is so often appointed by the architect, and there are several cases in which it has been strongly urged that the architect appointing the sub-contractor made either himself or the contractor who accepted the appointment an agent for the building owner, and, therefore, the sub-contractor could

sue him. But a rule has been laid down in the House of Lords, in the case of *Hampton v. The Glamorgan County Council*, that there is no implied agency of the contractor to represent the employer. At the same time, however, there is the case of *Hobbs v. Turner*, which stands as a strong warning to architects not to issue certificates for sub-contractors. That point arises in the Society of Architects' form, for I see they propose to have sub-contractors' certificates. It has been asked whether the case *Nott v. Cardiff Corporation* would apply if there were no written contract. The question in this case would not arise if there were no written contract, nor where the R.I.B.A. forms were used. If there is an appeal from the decision of the architect to an independent arbitrator I think it is now clear that the arbitrator will be entitled to overrule the decision of the architect, even as regards acts of the architect which were by the lower Courts considered conditions precedent to an arbitration at all. On the contractor applying to the architect for an order in writing, the architect refused, and the contractor said, "I will go to arbitration." In the Court of First Instance and in the Court of Appeal it was held that the refusal of the architect to order work in writing was a bar to the contractor's claim; but the House of Lords have held that the arbitration clause overrules any decision which the architect may make, and that the arbitrator's decision takes the place of the architect's order in writing. That is a ruling which, I think, will apply to all decisions an architect may make under the contract, except those expressly reserved for the final judgment of the architect. That case has not been fully reported yet. [Mr. BERNARD DICKSEE (F.): Yes, it is in *Justice of the Peace* this week, under another name, Brodie, I think.] Another question to consider is the cost *plus fixed profit* contracts, especially those in which the contractor is given a bonus for expeditious work. After all, under the profit *plus percentage* contract the architect has a grip of the job. He can say to the contractor "You must buy from So and So; you must show me the tenders so that I may see that the lowest tender is accepted." Moreover, under this contract, the architect or other person appointed by the employer can supervise the time-keeping, control the purchase of goods and material for the work, the pay-sheets, the expenditure, and so on. But where profits are fixed and a bonus is given to the contractor for expedition he cannot be interfered with, or he will say "You are interfering with the earning of my bonus: I am entitled to be given a free hand on this job, to run it as I like." It is a very dangerous form of contract indeed, unless there is a definite term put into the contract to negative the implied term that he must suffer no interference. I am much obliged for your presence, and for your cordial attention.

## Discussion on the Annual Report.

The President, Mr. Henry T. Hare, having formally presented the Report at the Annual General Meeting on Monday, 5th May, the following discussion took place:—

Mr. WM. WOODWARD [F.]: Mr. President and gentlemen, I propose to give a brief résumé of the Annual Report. Last year I expressed the view that when Peace was proclaimed it would be Peace on our terms. I also expressed the hope that it would not be long before we should have Mr. MacAlister back with us, and those other members of the staff who were away; that the Institute, in the following year, might meet with Peace before us, with no overdraft at the bank, with an increased membership, and our dear young fellows back with us, whom we shall acclaim with ever-loving sympathy, and that they might find that in their absence we had not forgotten them, but had done our very best to provide for them on their return. I venture to say that many of the opinions then formed, many of the hopes I then entertained, have been, as we find in the Annual Report, fulfilled. I also referred to the serious objections to the continuance after the declaration of Peace of the present war restrictions on building, and that also is mentioned in the Report. We have to lament a total of 45 losses through death during the year, and of that number, all of whom we deeply regret, I must refer specially to those particular friends of mine and of many in this room—Mr. Percival Currey, Mr. Matthew Garbutt, Mr. Rowland Plumb—one of the oldest members of the Institute—Mr. H. J. Wadling, and Mr. Frederic R. Farrow. We shall all read with pleasure, I feel sure, the very splendid account given of our Associate, Major-General Sir Charles Rosenthal, and agree with the Council that the Institute is justly proud of its distinguished member, to whom we tender our warmest congratulations on his brilliant military achievements. I am glad to find that we have an increased membership. In 1918 we had a total of 2,514; in 1919, 2,650, an addition of 136; and this increase, considering the circumstances, is a fact on which we ought to congratulate ourselves. I think we shall also be pleased that six Licentiates have passed the necessary examination and have been duly elected as Fellows. I trust, sir, we shall have many more from the roll of Licentiates announced as Fellows of this Institute. The Intermediate, Final and Special examinations resulted as follows:—15 candidates were examined, as against 20 last year, and 8 passed, as against 7 last year. The proportion of the rejected appears to be great, but I think we may take it that the reason for that is that these examinations are sufficiently stiff to ensure the inclusion in our membership of only those with the proper qualifications. For the statutory examination for District Surveyorship only one gentleman presented himself, and he failed to pass. The examination for the position of District Surveyor is, as we know, very stiff indeed, and I sincerely trust there will be many more of our young men who will present themselves for this particular examination. I think I may tell them with confidence, particularly if the Government permit—and I hope they will permit—that the district surveyors shall act with regard to all the houses to be built throughout the country. I refer to local and district surveyors—that they shall act and be paid, as they are paid now, for their supervision of the premises to be erected under their guidance. I only speak with regard to the young men because, although the district surveyors have during the last four years suffered through the stoppage of building, there is before these young men, if they pass the examination, a magnificent prospect of their dying millionaires! The Royal Gold Medal, as we know, is to be presented to Mr. Leonard Stokes, and we shall all wish that Mr. Stokes will be restored to good health to come amongst us again to receive this award which he so well deserves. On page 125 we have a heading, "Building

Restrictions." We shall agree with the evidence given by our President, Mr. Paul Waterhouse, and Mr. John W. Simpson before the Building Materials Supply Committee of the Ministry of Reconstruction. I think the one desire, as this Report states, is that in building we shall be "free and unfettered"; let these be our watchwords. And this will equally apply to the building regulations. These and the buildings themselves depend to-day, to a large extent, upon the British workman. The limitations of output, the tyranny which is exercised by the trade unions throughout the country, these are and will continue to be the main causes of restrictions in the building trade. And I trust we shall adhere to those words "free and unfettered," and allow plenty of room for that private enterprise which has made this country what it is. Coming to the question of the housing of the working classes, on the same page of the Report it is said that housing schemes should be placed in the charge of competent architects, and that we should stop the employment of local officials. I had a letter the other day, which I forwarded to this Institute, from a country quantity surveyor who has retired from practice—and I trust there are quantity surveyors here and many architects who will be able to retire on the competency which they have acquired during the last four years of the war. This gentleman serves on a local council which have undertaken to build fifty houses, and have appointed the official surveyor to carry out the work. There are official surveyors and official surveyors, but this particular individual appears to be a man quite ignorant of designing, or at all events of seeing that houses for the working class are what they should be. When I was Chairman of the Works Committee of the Borough of Hampstead, I had an opportunity of dealing with this particular matter. Large additions had to be made to the Hampstead Town Hall, and it was suggested by the Council that we should employ our surveyor to carry out the work, which ultimately cost about £20,000. I said, "No. First of all, I do not think our surveyor is competent to execute this work in a satisfactory manner; but if he were competent and you proposed to engage him, all I can say is, knowing the requirements for such work, his other duties must necessarily be neglected, so we had better discharge him as borough surveyor and let us see what he can do as an architect." The result was that we employed an architect, who carried out the work satisfactorily. On that occasion I upheld the principle which I hope will be upheld throughout the country in carrying out the housing of the working classes: the principle of employing architects to do proper architectural work, and that the local surveyors shall not be employed on such work, which requires all the skill possible for its proper execution. I now come to the matter concerning the Office of Works, which is mentioned on page 126. A deputation from the Institute was received by Sir Alfred Mond, and to my mind—and probably to the minds of the deputation—the result of that was very unsatisfactory. I remember that certainly not more than thirty years ago the duties of the Office of Works were confined to the repair and upkeep of the royal palaces and buildings of the kind. Now the functions of this department have been increased to an enormous extent, and I do not know where they are to end. I think there is no harm whatever in the Office of Works having in its employ qualified architects, members of this Institute, to do the particular work properly allotted to the department. When Sir James Pennethorne was architect to the Office of Works he built, for example, the ball-room at Buckingham Palace, the addition to Somerset House in Lancaster Place, the first portion of the Public Record Office in Fetter Lane, and that magnificent building, the University of London, in Burlington Gardens. Sir James Pennethorne, however, was in independent practice. In recent years independent architects were also engaged upon such Government buildings as the War Office and the Local Government Board Office in Whitehall, Mr. Young and Mr. Brydon being the respective



architects for those two works. Unfortunately they both died before the buildings were commenced, which were finished by architects in the department of the Office of Works. But lately I can see an enormous increase in the field of work coming under the Office of Works. Sir Alfred Mond said that all he had to do was to carry out the works required by other Government Departments. That may be so, but I am strongly of opinion that unless the young members of the Institute and of the profession generally throw off their present apathy, they will find that the Office of Works and other official bodies throughout the Kingdom will eventually have an army of architects in their employ, to the detriment of the independent architect, who, by way of taxation, has actually to pay for the upkeep of such establishments. I trust that serious action will be taken by this Institute to see that the activities of the Office of Works are confined to the upkeep of the royal palaces and the alterations and additions to the Government buildings; and that the department be not permitted to extend its work beyond those, to my mind, proper functions. The future of the architectural profession is mentioned on page 126. I know of no more pressing matter than this. I referred last year to the inroads upon our profession being made in various ways. I referred to the fact that auctioneers, to my knowledge, and to the knowledge of many men here, are taking away from architects and surveyors works connected with light and air cases, party wall cases, matters which are really the work of *bona fide* architects and surveyors. I refer also to the furnishing firms who say to their customers, "You don't want to employ an architect; we have a staff of architects; we can save you 5 per cent.!" Save them 5 per cent. I could tell them of cases where the client has had to pay 25 per cent. more than they would have had to pay if they had employed an architect. All these inroads upon the legitimate work of the architect ought to be stopped, but that will not be done if we maintain our present apathy under the impression—as I think, a false impression—that it is not dignified for the Royal Institute of British Architects to protest against these inroads. My opinion is that it is dignified; that we should not sit quietly by and see all these firms and public departments taking our work out of our hands. Another important matter referred to is a Conference on the Condition of the Building Industry. I hope this will be fully attended. I do not know whether the Institute can carry out my suggestion, but I would have both Mr. Smillie and Mr. Sidney Webb invited to attend, and if they do I should like to be present. On page 129 there is a reference to Mr. Ernest Newton. We all agree that he has done magnificent work for the Institute during the four or five years of the war. I expected, and many of us expected, that we should see the name of Mr. Newton under the heading either of the baronets in the recent list or under the head of knights. There is also a reference on page 129 to the Institute staff. Well, sir, we know that during the war the staff—those who had not gone to the war—have done excellent service, and we regret that Mr. MacAlister has not yet returned, and that he is ill from overstrain in connection with matters during the war. We sincerely hope he will soon be here. I take this opportunity, while speaking of the staff, to refer particularly to Mr. Northover. Mr. Northover, as we all know, during the past three years, in addition to his own work, which is by no means easy work, has carried out the secretarial work of the Royal Institute. He could not have done that without strenuous exertions, and I fear those exertions have had their effect upon his health and his general condition. I trust Mr. Northover will have a good holiday soon after Mr. MacAlister comes back, and that we shall not only extend to Mr. Northover our thanks for what he has done, but that the Finance Committee of this Institute will see that, in addition to our hearty thanks, Mr. Northover receives that substantial recognition "which

sweetens labour." I would also refer to Mr. Dircks, who has worked strenuously for us during the war. He has done all he could to carry on the work of the Institute in addition to his own legitimate work, and I trust he also will receive, not only our thanks, but also some similar reward. We have, in this Annual Report, a capital résumé of the Institute finances, and that, together with the report of the honorary auditors, gives us, I think, all that we require. I would refer, however, to two items in this report. The first is the loss of £1,120 through the remission of subscriptions in the case of members serving with the Forces. I am sure none of us will quarrel with that, for it is what I call a legitimate and proper loss. But when I find that the sum of £3,908 in 1918 is the amount of subscriptions in arrears, that is a large and serious sum, a thousand pounds more than it was last year. You may be able, Mr. President, to give some explanation of that very serious item. I think the explanation, unfortunately, will be that it is due to the loss of work of architects during the war, that many of them, perhaps all, have not been able to pay their subscriptions. Still, it does require, I think, some explanation, and perhaps the President will tell us why it is, and what steps can be properly taken, bearing in mind the losses owing to the war and to loss of business, to improve that figure by next year. There is one other item I would refer to, and that is the bank overdraft. When I spoke of it last year I expressed the hope that it would be wiped off. This has not been done, but it has been nearly accomplished, because from £1,639 at the end of 1917 it has been reduced to £825. I think it will be agreed that, bearing in mind the conditions we have passed through, this is a most satisfactory statement. And on the whole, notwithstanding all we must allow for, we shall have a balance of £221 of income over expenditure. That can only have been attained by the strictest economy, and the greatest regard for the interests of the Institute, not only by the President and Council, but also by our staff. I cannot occupy the time of the meeting by speaking of the work of the Standing Committees, except to thank all the members of those committees for what we know they have done. Those of us who have served on committees know that they occupy a very great deal of time, and all that the general body of members know is conveyed by the Annual Report. I also wish to thank the auditors. Finally, Mr. President, may I take this opportunity of saying what will be endorsed by every member of the profession, in expressing my personal thanks to you for the excellent and kindly manner in which you have carried on the traditions of the Royal Institute? The way in which you have occupied that chair, and have managed the various committees and meetings over which you have presided, has been most admirable to my mind, and I am sure to the minds of every member of the Institute. And although, Mr. President, you will not be with us again for some time, at all events as President, at the Annual General Meeting, I wish you continued health and happiness. I hope that in the future we shall see you here on every occasion possible after you have left the chair. We all know the chair will be occupied by a man excellent in every way, who, I think, will do good for the Royal Institute of British Architects—Mr. Simpson. I will close my remarks by saying, *Le roi est mort, vive le roi!*

Mr. JOHN SLATER [R.]: I would like, first of all, to congratulate the Institute on the return to the reasonable hour for its meetings at which we are assembled this evening. And I am sure we must all be pleased to see the ever-green Mr. Woodward here again, to give us a résumé of the Report. I do not altogether share his satisfaction with the membership numbers: I find the number of Fellows has gone on steadily dwindling, and it is a matter for very great regret. I was on the Council for many years, and we were always considering as to what was the best way of increasing the membership, especially the Fellowship. I should very much like to see more Associates becoming Fellows.

I also cannot but think that the fact of only six Licentiate passing the examination for Fellowship is not a matter for congratulation, seeing there are now 1,836 Licentiate on the Roll. With regard to what Mr. Woodward said concerning the Office of Works, he must remember at least this: that if they had continued their rôle of looking after all the Royal Palaces, we should never have had Sir Aston Webb employed in the reconstruction of Buckingham Palace, and that he was so employed is a matter for congratulation to everybody. That Oxford has, at last, followed the line of Cambridge in at any rate considering architecture as one of the chosen subjects for the degree in *Literæ Humaniores* is very gratifying. There are one or two things in regard to the finances that I cannot understand. The rent from tenants has gone down very much. There may be some reason for that; perhaps we are occupying more of the premises than we did in 1913, but the item is less, the amount from it being reduced considerably. Also, I do not at all understand the smallness of the sum which has been received for advertisements. This JOURNAL of ours has a very wide circulation, and I cannot but think that, if it were properly worked, the sum to be received from advertisements in the JOURNAL might be much increased. The Council are certainly to be congratulated on the economical way in which they have run the Institute, but I would ask them not to carry economy too far; do not let the activities of the Institute be reduced below what they ought to be. There are one or two small matters connected with the Reports of the Standing Committees on which I would like to say a word or two. In the first place, the Practice Standing Committee says its Sub-Committee is preparing a pamphlet on "instructions to arbitrators." I cannot help thinking that if a man has sufficient experience and character, and has a sufficiently judicial mind to act as arbitrator, there is no necessity to issue general instructions to him. I have been arbitrator in very many cases, some of them of considerable magnitude, and I am sure that each matter which is the subject of arbitration has special points in it, and it is of very little use to have general instructions. In fact, if I were appointed arbitrator and were handed a copy of instructions by somebody as to how I was to conduct the arbitration, I should put it in the waste-paper basket. I am sorry the Practice Standing Committee has done that, because I do not think it will do good, and it may do some harm. I should like to say a word on the Scale of Charges, for I view this projected raising of the fees of architects with very grave apprehension. Look at the enormous increase in the cost of every building operation. We cannot help feeling that the architect, with the same drawings and the same amount of superintendence, will get double the amount in fees which he made before the war. I am very much afraid, therefore, that if we are going to advise the general raising of this scale, you will make the public more shy than ever of going into building operations. There is, too, another question to consider. How can you at present enforce the adoption of this new scale, either upon the public or upon your own members? You cannot do it. I have been speaking, within the last few days, to leading men in the profession, who say they would not think of charging more than 5 per cent. Only this afternoon a member told me some of his clients had approached him and said, "Now that building is costing so much more, don't you think you ought to reduce your fees?" I think the moment is most inopportune for bringing this matter forward, and I shall be glad if it is dropped. I would like most cordially to endorse what Mr. Woodward has said as to your presidency, Sir, and also to congratulate my old friend, Mr. John W. Simpson, on the honour which has been done him in selecting him for the presidency. I hope there is no doubt that he will be elected.

Mr. W. HENRY WHITE [F.]: There is a part of the Report which I think will interest greatly the younger members of the profession, the members who are coming back from the Front. I refer to the paragraph dealing

with the future of the architectural profession. That must be a question which will chiefly affect them, and I cannot help regretting that the Committee which has been appointed has not been able to give a fuller résumé of their work. All these men returning from the war are sure to ask: "What has the Institute done for us in our absence? What has been done to further the interests of the profession?" As an answer to these questions they will merely have the few lines contained in the Report. I find that, as usual, the Americans are a little more alive than we seem to be, for they have issued in their JOURNAL three or four pages of vital interest to the members of their profession. It is headed "Post-War Committee: Preliminary Outline of Programme." Where have we any preliminary line of programme? In addition, I understand, they have since sent out a list of 150 questions to about 8,000 members, to which they invite replies. I could not trespass upon the time of this meeting by reading it, but I would like to ask that instructions be given for the reprinting of this document in our JOURNAL to show what the American Institute of Architects are doing. It will surprise you. I cannot help feeling that some members of this Special Committee on reconstruction must have seen this document, because there is a curious resemblance to three or four lines in our own Report. I wish they had reprinted the whole thing as our own programme. That would have done us all much good. I merely throw it out as a suggestion, as it is a good illustration of the "live-wiredness" of the Americans and a contrast to our own rather dull ineptitude, a more virile way of taking advantage of the times. There is another point I want to speak on for the younger men, though I have not much right, perhaps, to speak on their behalf. On their return they will want to keep in touch with the work of this Institute. For reasons of economy, we have had to publish the JOURNAL once a month instead of once a fortnight. I ask that, if possible, we may have it again issued fortnightly, so that members be kept alive to what is going on here. Mr. Slater has already referred to the fact that economy can be carried too far. I think going back to a fortnightly issue is likely to meet with approval, and I hope the Council will consider it. I did not think we were going to enter to-day into the question of the Scale of Charges, and though I have listened with great interest to what Mr. Slater said, I am afraid I am rather on the progressive side. I think that now, if ever, is the proper time for making a change in our Scale of Charges. The building public have been prevented from building for four or five years, and have come to realise that everything is increased in price. Every other charge they have to meet is increased; solicitors put on an extra 25 per cent. to their charges, doctors have increased their charges, and why architects should still be considered as unworthy of their hire, I cannot understand. The question of getting extra pay because the cost of building has increased is only a transient one. We are expecting that within a year or so we shall come back to, at any rate, not more than 30 to 40 per cent. above pre-war prices. Yet we are expected to pay the increased taxation. And remember when you get a five guinea fee you pay heavily out of it to the Government for taxation. Have you thought of that? When you engage an assistant, instead of paying him three guineas a week, what will you be expected to pay him now? We were to have had the increased Scale of Charges before the war; it was passed at the General Meeting, but the war stopped it. I fail to understand why we should take a retrograde step and retain the old figure of 5 per cent. Therefore, with all due deference to Mr. Slater, I hope that that Schedule will be passed at the next meeting, and that the Scale of Charges will be issued as soon as possible, so that we may, when dealing with the new building public, have our new Scale, and not have to go back to the old. Sir, I congratulate you on your year of office, and the Institute upon again reaching a stage when we may look forward to being able to build instead of destroy.

Mr. WOODWARD: May I just add a word which I forgot in speaking on the Report? I refer to the obituary. I learn that the total number of our members—Fellows, Associates, Licentiates and Students—who have fallen during the war is 166.

Mr. MAX CLARKE [F.]: I had intended only to speak on one subject, but I find the remarks of Mr. Slater concerning the Practice Standing Committee deserve a word of comment. I made the suggestion to the Committee that they should try to deal with this matter, not with the object of educating architects of long practice and experience, but to educate the rising generation. Speaking from my experience on the Practice Committee, there seem to me to be so many young men who know absolutely nothing of how an arbitration should be carried on, or the preliminaries of arbitration practice. I must confess that the title mentioned in the Report—"A Pamphlet of Instructions"—is not exactly what we intended. The idea was to give young architects some information as to what they should study in order to fit themselves to be arbitrators. The Institute is an examining body; it has to depend upon educational bodies for giving the rising generation sufficient information to pass the examinations. So far as I can learn, there is no course of instruction for architectural students in which they are taught how to proceed in an arbitration case. To a young man his first arbitration is a great difficulty, and I thought that if he had some information, given in whatever form you like—a pamphlet, or lectures, or a text book—even the inexperienced would not be absolutely at sea with the public and the solicitors in arbitration cases. I am filled with regret to see that members' subscriptions in arrears amount to a total sum of £3,908. I know it is a very knotty problem; I have been thinking over it during the past week, and at the moment can propose no solution. Some of you may recollect that I raised the same point last year when the amount was about a thousand pounds less. I think there are two ways of dealing with it. One is to wipe it off as a bad debt; the other is to urge the members in question to try to pay the outstanding sum by instalments. If you were to wipe this off as a bad debt and then make up the Balance Sheet, it would be very different from that now before us, so I do not feel inclined to do that. I think some real steps should be taken to try and get this money in. If these gentlemen would pay within a stated period, say during the next three months, and that if they do so they could pay so much less, that would be a way out. No doubt there are people who have been very unfortunate, still this state of affairs cannot be allowed to continue in the way it has done. In 1915 the amount was £1,169; in 1916, £1,946; in 1917 it was £2,700. Now, in 1918, it is £3,908. I would suggest that some means be taken to bring it more forcibly before the members. It would never do to turn out all the members of the Institute who had not paid their subscriptions: that would be fatal—as well for the public as for the Institute. The only alternative is to devise some scheme by which members might pay perhaps a little less than they anticipate. Mr. Brodie has just suggested to me that it might be a composition. That is exactly what my theory is. But to allow this to accumulate in the present way would place us in a very awkward state, because if we were to make an actual Balance Sheet with a bad debt of £3,908 it would look very bad for us, and it would be bad, in fact. All the things Mr. Woodward has said, except one or two, I re-echo. I agree that the Staff have had an enormous amount of work to do owing to the war. They have been, like so many other people, sorely pressed, and I think they have done their best. And as for you, Sir, you have had a very uncomfortable time. No one who has had to occupy a position of the kind during the war has had a comfortable time. I congratulate you, Sir, on having got out of the difficulties in the best possible manner.

Mr. SLATER: One word of explanation. If Mr. Max Clarke will publish a little book on Arbitrations, I am sure he will supply a much needed want, but from that clause in the Report I took it that what the Practice Committee was intending to do was that when a man had been appointed Arbitrator by you this printed pamphlet of instructions should be given to him for guidance. That was the reason of my remarks.

Mr. PERCIVAL FRASER [F.]: As Honorary Secretary of the Practice Committee I should explain that the paragraph heading re Arbitration is the short title of a sub-committee who are preparing a guide to young arbitrators. In speaking of the Practice Standing Committee, I may say Mr. Atkin-Berry, the Chairman, asked me so express his regrets for his inability to be here to-night to answer questions on the Committee's work. Mr. White made some remarks on the paragraph dealing with the future of the architectural profession, and I very cordially support what he said. I do think it is a somewhat meagre legacy for the young fellows who are coming back to this country. They have a right to expect that the Council have done heroic work for them in their absence as they who have been away have done for us. The whole paragraph is, to my mind, somewhat anemic. What Mr. Woodward said concerning architectural work being in architects' hands is exemplified by a curious case told me to-day. Some building owners called in an architect to carry out extensions to a new ferro-concrete factory. After discussing the matter, they asked him his fees, which he told them would be 5 per cent. They then said, "But this ferro-concrete work was put up for 3 per cent." "By whom?" he asked. "By a ferro-concrete specialist." My friend found out who the contractors were, and discovered that, although they were making a nominal charge of 3 per cent. for the design, they were charging an additional 10 per cent. for so-called royalties on a patent bar. They were, therefore, no more than iron merchants selling a patent bar and making thumping profits. That is the sort of thing which the Institute must combat. Etiquette has to be put on one side when trying to stop such practices. I may say that I have not met a single member of the profession—and I have asked all I met—who has been invited to give evidence on the Future of Architecture Committee. I think evidence should have been invited in the most public manner, a committee being appointed to decide as to whose evidence was worth having. I should like to add my words of eulogy to Mr. Northover for the work he has done. As an inexperienced Secretary of the Practice Committee I felt very much at sea, and what I should have done without Mr. Northover's help, I cannot say. Nobody can realise what his work has been during the last two or three years: it has been practically superhuman. On the question of finances, I take it this £3,908 is a cumulative figure; it does not mean the amount accrued during 1918 and that the previous years' debts had been wiped off. If that is the case, we have had six years during which it has been accumulating. There must come a time for the auditors to say, "We must strike off this bad debt." Speaking of the need for the Institute's rigid economy being removed, I think the Institute premises want some attention. The lighting in this room is very bad; there is no hot water in the lavatories, the committee rooms are at such a temperature in the winter that Committees sit in their overcoats with collars turned up. No man can do good work under those conditions. I think if the JOURNAL were issued bi-monthly, instead of monthly, though it will cost more, we shall get a correspondingly bigger return from advertisements, which should not be £200 odd, but more like £1,000 at least. Mr. Max Clarke has dealt with Mr. Slater's criticism of the "Instructions to Arbitrators," but I can speak as a young man fresh from the throes of my first arbitration, and I sincerely hope that the much needed directions to arbitrators will soon be in the hands of the young men of the Institute. The Institute has issued



papers on dilapidations which are invaluable. I ask this Institute to do more that is constructive and tangible. Though I may be out of order in speaking about the Scale of Charges, I would say that Mr. Slater seems to have forgotten that there is a finite amount of money in this country, and that if buildings are going to be twice as costly, only half the building will be done, so we shall only get the same total fees, while we are paying infinitely more in taxes and in the general cost of living. My final word is, that I greatly regret that the Council is only represented at this annual meeting by one member.

Mr. C. H. BRODIE [F.]: I will only detain you a moment, but I feel I must pay what tribute I can to the memory of my dear friend Rowland Plumbe. When I completed my articles and came to London, I had the great good fortune to enter Mr. Plumbe's office: its good fortune has followed me throughout my career: whatever I am or am able to do is due to the influence of Mr. Plumbe, and the extremely good way his office was conducted. The running of his office, Sir, was a masterpiece. And there are many men I have known who entered the office in my time, and who entered subsequently, who would echo my words if they could. Some are already deceased, and one regrets that exceedingly—one does not so keenly regret the loss of a man who lived till his 81st year. I had the great pleasure to visit Mr. Plumbe almost up to the day of his death. He had completely lost the use of his lower limbs, but he sat in his chair and chatted just as he did forty years ago. He had kept his colour in the most extraordinary way: in fact if one had not known he suffered greatly from rheumatism, which crippled him, one would not have been aware that there was anything the matter with him. He discussed the work of this Institute, and the work of his "boys," as he used to call us—it is remarkable to be called a boy when one is in one's 60th year—but that was the result of his genial mind and character. I feel I cannot let what Mr. Woodward said pass without remark, and as I may not have another opportunity, I do wish to lay my tiny laurel wreath on the grave of a really good man and a thorough English gentleman.

Mr. DELISSA JOSEPH [F.]: I have read this Annual Report with great care and interest, and it leaves on my mind this impression: that you, Sir, your Council, your Committees and your Staff have done, under very difficult circumstances, a large amount of very valuable work in a very efficient way, and that we should all be very grateful to you for it. The most gratifying feature of the Report is the indication it gives that, since the withdrawal of the restrictions on building, for which we are largely indebted to you as well as to Mr. Newton, the Council have been devoting attention to those purely practical questions which are so vitally important to us at present. I recall, with much interest, that since last December you have had discussions in this room on the problems of professional practice, on the difficulties of building contracts, on the law of light and air, on the scale of professional charges, and, later, on a scheme for bringing about a Conference on the Building Industries. That those five items should have been discussed during the last six months is a matter for congratulation, and reflects the greatest credit upon you personally for the initiative you have shown in bringing us back to the paths of activity. To-day we may, not unreasonably, look forward hopefully to the future, notwithstanding the difficulties which face us. We may look forward with some confidence, I think, in spite of the delay in the production of their Report, to the result of the work of the Special Committee which you called together some months ago to consider the question of the future of the profession. We may look, also, for some valuable results from the conference which is to be called this month on the building industries: and I think we may reasonably hope that with these bold activities, in which you have already taken so prominent and valuable a part, there will open a new era for architecture in this country.

Mr. W. S. TUCKER [A.]: I will only make one observation. There is a reference in the Science Standing Committee to teak. When matters are improved, I hope the question of having a laboratory for testing materials will be considered by the Council: it would be an excellent addition to the Institute's equipment.

Mr. SCOTT COCKRILL [A.]: May I ask if, at the forthcoming conference, an opportunity will be given to young members to get together and devise some scheme to combat the practices of the commercial companies which have been referred to? I feel, as a young man, that the lead ought to come from the older men in the profession. I do not think the apathy which Mr. Woodward mentioned does exist. Some time ago I proposed in this room a resolution which was carried, and since then there has accumulated in my office a quantity of correspondence on the subject which would astonish you. It amounts to this: we look for a lead. At present we have none. The ideas I have may not be altogether acceptable to the Council, but I would say, "For heaven's sake, give us a lead." We will do the hard work, but we want guidance from older men.

Mr. W. R. DAVIDGE [A.]: I would, with those near me, like to associate myself with what has been said about the work of Mr. Northover, as well as the work of the Council, though we know what that is, and need not emphasise it. I think this is an occasion when the whole of the members would like to express their thanks and gratification to Mr. Northover for the very efficient way in which he has worked on behalf of the Institute.

The PRESIDENT: We have had a most interesting discussion. As I have said at other meetings, we have been indebted to our friend Mr. Woodward for very many years for coming forward in the way he does—he never fails us—to run through the Report. I remember, in years gone by, when it was not merely a review of the Report, it was a very serious criticism. Every year, however, the severity of the criticism seems to diminish. I am sure that is not due to lack of energy on Mr. Woodward's part, and therefore I think we may conclude that there is very little to find fault with. And speaking for the Council and Staff I think we may take credit to ourselves that at all events we are improving. As the report indicates, the deputation to the Office of Works, unfortunately, was not very satisfactory in its results. We are all in agreement with Mr. Woodward's contention that the legitimate function of the Office of Works is the repair and maintenance of Crown and Government buildings. That was the original function of that department, and we think their activities ought to be practically confined to such duties. Unfortunately, there has been a tendency, of late years—and one which has been very much accentuated by war-time necessities—for them to increase the scope of their operations. And it certainly appears to us a very serious menace to the profession, for the example set by the Office of Works gives a lead to other public bodies throughout the country to follow a similar line of policy (Hear, hear); and that is not in the interests either of architects, nor—what is much more important—of architecture. We are sure that the real interests of architecture lie, mainly, in the work of the independent architect. And the Institute, although they have not succeeded, by means of this deputation, in making much impression, have the matter actively in mind, and are very seriously considering what other steps can be taken to bring this matter more publicly forward. There are other possibilities, and I have no doubt something will be done in that direction. It is really unnecessary for members to urge consideration of this question upon the Council, because they feel it as much and as acutely as anyone else. The committee which is sitting on the subject of the future of architecture has certainly taken much longer to present a report—even an interim report—than was anticipated. The matter has proved to be an extremely difficult and complex one. Among the questions to be considered are



the education of the architect, the education of the public, the unity of the profession, the possible closing up of the ranks of the profession, or something of that kind. There are so many divergent opinions upon all these questions that it is very difficult to come to a satisfactory conclusion on which a definite report, recommending a line of policy for the Institute, can be based. That, however, is approaching, and the time when the report will be presented cannot now be very long delayed. I hope it will be before you, if not this Session, at any rate early next Session. Mr. Slater referred to the drop in the number of Fellows. This reduction is not a serious one, but, at the same time, it is unfortunate that the trend of events is not in the opposite direction. There is, for some reason or another, a reluctance on the part of Associates to pass to the higher grade when they are qualified to do so. What the reason of that is, I do not quite know, but I think that possibly if there was some higher qualification for the Fellowship, perhaps some kind of examination, it might make it more valuable in the eyes of Associates than it seems to be at the present time, when it is merely a question of election. (Hear, hear.) Applications for the Associateship increased considerably as soon as it was necessary to qualify for it; and it is possible that some step in that direction with regard to Fellows might have a similar result. I think the matter is worthy of consideration. The question of the arrears of subscriptions has been touched on by several speakers. It seems to me that it is only what might have been anticipated. During four years of war I think one would naturally expect that year by year the number of members unable to keep up their subscriptions would increase. Each succeeding year conditions of practice have been more difficult, there has been less work to do, and there have been more and more members who were unable to meet their obligations. This year, of course, it is much worse than last year; but now we are at the end of that, and we have every reason to hope that things will be very different in the course of another twelve months. I do not think we could reasonably take any other course than to allow those members who are in arrear to have full latitude for the whole period of the war. Our experience this year is that things are improving, because since last January we have received £400 in payment of arrears, and I anticipate that, as things gradually improve, we shall receive a very large proportion of those arrears. The only thing to do is to let it go, at all events for the present, using every reasonable influence we can to secure payment. The "reduction in rents from tenants" is not really a reduction in rent. The rents we receive from tenants are just the same as in previous years. The reduction which appears in the Report is reduction of the rent we receive in letting these galleries, which have not been let during the war as in past times. The large gallery has been used for a considerable time by the Civic Survey. And, further than that, there have not been so many people wanting to rent these galleries, and that is a reduction. But now applications are coming in, and in a very short time, no doubt, we shall be receiving more rent for the galleries than we did previous to the war. A similar explanation applies to the amount received from advertisements. It is due to the fact that, first of all, there is no "Kalender," and secondly, the amounts received for advertisements in the JOURNAL have been very much less, because the JOURNAL has been issued only half the number of times, and has been only half the size. That will correct itself as soon as we revert to normal conditions, which we are gradually doing. I did not rule out of order those members who spoke on the subject of the Scale of Charges, though really much of what was said was out of order. I did not do so because it is a very important matter that we are considering in this scheme. There are many things to be said on both sides in connection with the raising of the percentage from 5 to 6. I can only hope that all those members who are able will be here next Monday, when the matter will be finally settled, I trust, one way or the other. Several members have

mentioned the services of the Staff during the difficult times through which we have gone. We regret very much that Mr. MacAlister, the Secretary, should have been laid aside in the way he has been. I am pleased to say that the report we have from the consulting physician who has had charge of him is a very satisfactory one, and he is making progress towards recovery. I think we may hope that he will be with us at the beginning of next Session, if not before. In the meantime, his work has been carried out by Mr. Northover; and probably hardly anyone knows better than myself, or as well as myself, how very arduous those duties have been, how very efficiently Mr. Northover has carried them out. I assure you the thanks of the Institute are due to him, because he has really done wonders in supplying Mr. MacAlister's place, and carrying on his own work at the same time. And the rest of the Staff have also been extremely helpful, and it is due to their loyalty to the Institute that things have gone as smoothly as they have. (Hear, hear.) In replying to Mr. Woodward's kind remarks about myself, I can only say that I have done my best, and I should not have been able to do so well as I have done if I had not had such loyal support from all the members of the Council, and—again I mention the Staff—Mr. Northover in particular. I trust—and I have no doubt whatever—that when my successor takes office, the affairs of the Institute will be carried on as efficiently as, probably more so than, they have been in the past. I have every confidence in Mr. Simpson's ability to do so, at all events. I should like to say just one word—as Mr. Brodie mentioned him—about Mr. Plumbe. I knew Mr. Plumbe very well indeed for many years, and I can endorse everything Mr. Brodie said. We have lost a very good friend and an extremely able architect, one who was a credit to this Institute and to the profession generally. I think the question of the pamphlet of instructions to arbitrators has been pretty efficiently dealt with. Mr. Slater's criticism was entirely justified by the unfortunate wording of the reference in the Report. I would like to call attention to the fact that the list of attendances of members of Council and Standing Committees is on the table here, for anyone who wishes to do so to consult; it will be published later in the JOURNAL.—The Report was then put to the meeting and carried unanimously.

#### Exhibition of War Memorials at the Victoria and Albert Museum.

As an outcome of the formation of the Royal Academy War Memorials Committee, it is announced that an exhibition of war memorials will be held at the Victoria and Albert Museum towards the end of the present month, under the auspices of the Academy Committee, and with the co-operation of the Staff of the Museum and that of the British Institute of Industrial Art. Memorials of the past as well as recent works by deceased and living artists will be included in the exhibition. The intention is to illustrate the whole field of decorative art and craft with which such memorials might be concerned, hoping thereby to guide the taste of the public in the selection of suitable designs and of qualified artists. The present exhibition is mainly intended for memorials actually executed, as there is to be a representative exhibition of projected designs at the Royal Academy in October, but designs for definite memorials already in hand or about to be carried out will also form part of the Museum exhibition.

#### University of London Chair of Architecture.

At a meeting of the Senate of London University held on 28th May, Mr. A. E. Richardson [F.] was appointed to the Chair of Architecture, tenable at University College, in succession to Professor F. M. Simpson, resigned. He will take up the appointment at the beginning of the Michaelmas term.

## SAMUEL PERKINS PICK, F.S.A.,

*Past Vice-President.*

The profession has suffered the loss of one of its best types in Mr. Perkins Pick. His ability as an architect, supported by an excellent judgment and a genuineness of character, made him a position among provincial architects that was certainly eminent and enviable. He had an enthusiasm for interesting old buildings that carried him continually in search for beauty almost over the whole of England, and his knowledge of current modern work was also quite remarkable. A kindness of heart and delight in friendship placed the whole of his information at the disposal of his friends, and his advice upon technical matters was also freely imparted and had special value. His practice had combined much important constructional and hygienic work with what is ordinarily called architecture, and in many hospitals and asylums as well as in civil and ecclesiastical work the union of his soundly scientific knowledge with artistic instinct is manifested. The delights of a good country practice with a large connection and many friends were his, and nothing overshadowed his intense interest in his profession and his concern for its whole influence. Local by-laws, practical design and the arts and crafts were each subjects upon which his knowledge and judgment could be relied on. A long and painful illness followed upon his visit to Cologne as a nominated representative on the Officers' Educational Commission, and the hope that his friends entertained of a longer career and increasing recognition of his sterling worth can only be recorded with affectionate regret.

BERESFORD PITE [F.].

## CORRESPONDENCE.

7, Stone Buildings, Lincoln's Inn, W.C.,  
27th May 1919.

To the Editor, JOURNAL R.I.B.A.—

SIR,—I think that my experiences in regard to two housing schemes during the last week may be of interest.

The first scheme, promoted by a Rural District Council in Buckinghamshire, was for upwards of 300 houses, scattered over a large area in some 20 parishes. Some of the sites will require careful surveying owing to their sloping character—this work being required to be done by the appointed architect, who also was to do the lay-outs and drainage and specifications for roads, sewers, &c. I was requested to attend for an interview together with two other applicants, neither of whom were local men, whereas I have a country office in the rural area. On being interviewed it became painfully apparent that all the Council wanted was the cheapest man who would give all-time services—qualifications being quite a secondary matter—

and the job was given to one of these two applicants, who had no proper qualification, at something about £300 a year.

The second scheme was also for a Rural District Council, in Essex. This scheme was for 350 houses in 35 parishes, the appointed architect to advise the Council on the choice of the several sites which are not yet decided on, and to carry out the whole scheme. Before attending the meeting I was informed that the Council did not want an all-time, salaried official, and on being interviewed I got the impression that I stood a good chance of getting the work. Another applicant, however, was interviewed, who asked for five guineas a week all-time services, and was appointed "architect" forthwith. The only "qualifications" produced by the successful applicant were a building construction certificate and a certificate of a course of instruction in sanitary engineering. I was informed after the meeting that "the committee thought that the job was not big enough for me"!

These two Local Councils appeared to be totally lacking in appreciation of the amount or the importance of the work to be undertaken, the qualifications required, or the corresponding fair remuneration for services rendered.

I understand that the Housing Commissioners appointed by the Local Government Board are not allowed to recommend architects to local authorities, and can only tactfully suggest that a fully qualified man should be employed.

I suggest, therefore, that the Institute should approach the Local Government Board *without delay*, either direct or through a member of the House of Commons, for a clause to be inserted in the Housing Bill to the effect that the Government grant will only be given to local authorities who appoint a fully qualified architect to carry out the work—the architect so appointed to be nominated or approved by the R.I.B.A. or affiliated societies.

Under the present conditions it would appear that the majority of the housing schemes will be given to unqualified architects' or surveyors' assistants or builders' clerks who are content with a wage but little higher than a foreman or clerk of works on one of their jobs, while they themselves are responsible for the outlay of perhaps £100,000 to £200,000 of public money. This state of affairs will quickly result in the absolute prostitution of the profession.

I should also be glad to know what the present or future position is of the men who have properly qualified themselves in their profession. They are not allowed to compete and possibly undercut others in fees for these schemes, even if they were willing to do so, on pain of having their names erased from the lists of members of the Institute. At the same time they are unlikely to obtain any work under the present conditions, being hopelessly handicapped in competition with the "cheap" man.—I am, &c.,

G. BERKELEY WILLS. [A.]

## Election of Council.

5th June 1919.

SIR,—At a recent General Meeting I heard a grave complaint which I think should be brought to the attention of members. The Council issued a list of candidates nominated by them for our consideration which included a large number of members of the present Council. Since that list was issued I find that the Council met 21 times, and they actually recommended men who had given the following attention to the work of the R.I.B.A. :—

Two members only attended 7 times.

" " " " 5 "

" " " " 4 "

" " " " 3 "

One member " " twice.

" " " " once.

One member did not attend a single meeting!

In the interests of the R.I.B.A. cannot this scandal be stopped?—Yours obediently,

FELLOW.

## The Revised Scale of Charges.

141, New Bond Street, W.1., 13th May 1919.

To the Editor, JOURNAL R.I.B.A.,—

DEAR SIR,—In reference to the Meeting held last evening, which finally disposed of the very contentious subject of Architects' fees, there was one matter which, in the enthusiasm of the settlement, appears to have been overlooked, and that is that a Vote of Thanks ought to have been tendered to the President, Council and Committee who have spent so much time and thought upon the preparation of the schedule which has been issued to members and is now satisfactorily passed. May I be permitted to voice this expression of congratulation, in case, perchance, the oversight may strike some of the members of the Committee as ingratitude.—I am, Sir, yours very truly,

ALBERT E. BULLOCK [A.]

## Proposed Belgian Memorial in London.

12th May 1919.

To the Editor, JOURNAL R.I.B.A.,—

DEAR SIR,—I read with satisfaction in the Press under to-day's date, of the offer by Belgian residents in this country to present a National Memorial as a testimony of gratitude to Britain for aid in the Great War. The suggestion that the site should be on the Victoria Embankment is a good one, but I venture to suggest that a more suitable position would be at the Blackfriars end, as I suggested in my proposal to use both sides of that boulevard as an Avenue of Victory: the Belgian tribute to take first place at the City end, as first to feel the onslaught of the Hun, followed by France and the other Allied Nations as they came in, terminating at Westminster with statues and groups by the U.S.A. I expressed the opinion that each nation would be willing to testify its gratitude for our help by

providing its memorial *con amore*. Now Belgium has made this offer, I feel sure that France would not like to be left out. This would make a start in completing the Embankment *seriatim* as a National War Memorial at little expense. (R.I.B.A. JOURNAL, vol. xxiii, p. 311.) Thus the now meaningless pedestals on the river front would be utilised: the groups to face the roadway, and be *vis-à-vis* with the statues of the hero selected by each country ranged along the public garden side. If this should be carried out it would be a pity not to have a comprehensive scheme at the outset in regard to sites.—Yours truly,

EDWD. W. HUDSON [A.],  
Hon. Corr. Mem., Société Régionale  
des Architectes du Nord, France.

## Members' Addresses wanted.

The Secretary would be glad to receive intimation of the addresses of the following Members and Licentiates :—

FELLOW.

Morgan: David.

Wright: Edward Leslie  
Wheatley: J. H. Lyncham

ASSOCIATES.

Adshead: Charles Thomas  
Ainsworth: John Cooper  
Bromhead: Frank Harold  
Butt: Charles Freak  
Cook: James Charles  
Cowper: J. B. Francis  
Crone: Harold  
Doggart: Arthur Robert  
Dutch: Leonard Harris  
Gilford: Hubert Ernest  
Gribble: William John  
Goldie: Thomas Inglis  
Haynes: William Henry  
Hill: Alfred Ryshworth  
Hill: Richard H. Ernest  
Hopkins: William Bonner  
Hoy: Percy Cartwright  
Jeffrey: John MacNee  
Lawson: John Boyd  
Leslie: Harry George, F.S.I.  
Lovell: Richard John  
Maxwell: Joseph Charlton  
Moberley: A. Hamilton  
Mulready: Paul William  
Myer: Val.  
Newham: Theodore Nelson  
Orme: Robert Wright  
Page: Ernest Godfrey  
Phipp: Reginald A. H.  
Pierce: Robert  
Robson: Bernard  
Rycofft: Joseph  
Shield: J. E. Coleman.  
Smith: George Cade  
Sutherland-Graeme: A. V.  
Thompson: Charles Joseph  
Walker: George  
Watson: Bryan  
Wright: Christopher  
Woore: Joseph Alfred

LICENTIATES.

Barclay: William  
Barnes: Alfred Henry  
Blanc: Louis  
Booth: Percy  
Brameld: H. C. W.  
Brooke: Charles Henry  
Brown: George  
Burgess: Harold Thomas  
Carswell: Ronald  
Christie: James  
Cogswell: John Henry  
Cunliffe: Thomas Hethorn  
Davey: Roger Thomas  
Dewdney: Ernest Arthur  
Davis: George Walesby  
Donaldson-Selby: T. T. G.  
Foster: Gains  
Glennie: Frederick Forbes  
Hampson: Neville  
Hilton: Ernest William  
Hodges: Alfred C.  
Hunter: John Marshall  
Kennedy: William James  
Knee: W. H.  
MacColl: Ralph Baxter  
McCulloch: Henry Cox  
Martin: Andrew Edwin  
Morris: Henry Silver  
Moorhouse: G. G.  
Nunn: Frank Reginald  
Percival: James  
Price: Francis Henry  
Puntin: James Henry  
Quartermann: Arthur R.  
Smith: Ernest Henry  
Smith: J. Roxburgh  
Stevenson: Ernest Gabriel  
Weald: George  
Wills: John Ross  
Wilson: Anthony



9 CONDUIT STREET, LONDON, W., 14th June 1919.

## CHRONICLE.

## The R.I.B.A. Record of Honour: Sixty-second List.

*Fallen in the War.*

**BARRY, Capt. FRANCIS RENTON**, 5th (Reserve) East Surrey Regt. [*Associate*]. Killed in action 4th September, 1918.

Capt. Barry matriculated at London University, and studied for two years at the A.A. School, and for five years at the Royal Academy. During these five and two subsequent years he was in the office of Sir Aston Webb. He joined the 5th East Surrey Regt. in October 1914, and a year later was granted a Commission. He served in France, and later in Italy, and returned to France in time to take part in the heavy fighting last spring. Promoted Captain, he saw hard service in the trenches throughout the summer. He fell at Vierstraete on 4th September, whilst leading his company at the farthest point in the British attack.

**CARMICHAEL, Lieut. DAVID A.** [*Associate*]. Reported missing 17th April, 1918, now presumed killed.

**DIXON, Capt. CYRIL BURTON, M.C.** [*Student*]. Died of wounds in France 14th November, 1918.

**FRASER, Lieut. H. HUBERT**, 3rd Yorks Regt. [*Associate*, *Pugin Student*, 1910]. Reported missing 27th May, 1918, now presumed killed in action.

**MILNE, 2nd Lieut. DAVID**, Hants Cyclist Battalion [*Associate*]. Killed in action 28th Sept. 1918.

**MOSCROP, Capt. and Adjutant WILLIAM NOEL JOBSON**, 5th Durham Light Infantry [*Student*].

Missing, presumed killed, 27th May, 1918. Only son of Mr. W. J. Moscrop, of Darlington [*Fellow*].

Capt. Moscrop had been in the War since August, 1914, and took part in the Second Battle of Ypres. He was twice mentioned in dispatches, and received the Military Cross. In the retreat to the Aisne on 27th May, 1918, his regiment was surrounded and the bulk taken prisoners. Capt. Moscrop, surrounded by 10 or 12 of the enemy, refused to surrender, and fought his way out, killing several Germans. Reaching Brigade Headquarters, he was next given an almost impossible task, and probably fell in carrying it out.

**NOTLEY, ALBERT CARR**, Lancashire Regt. [*Associate*]. Killed in France, 31st May, 1918.

*Military Distinctions.*

**SAXON, FREDK. CHAS.** [*Associate*]. Twice mentioned in dispatches and awarded the Military Cross.

**WILKINSON, Lieut. S.** [*Licentiate*]. Awarded Royal Air Force Cross.

## Conference on the Condition of the Building Industry.

A Conference to consider the present condition of the building industry was held under the auspices of the R.I.B.A. on Tuesday, 20th May, in the Institute rooms, at which there was an attendance of some 250. Mr. Henry T. Hare, *President*, was in the chair, and delegates were present from the following bodies:—London County Council, Royal Institute of British Architects and its Allied Societies, Society of Architects, Surveyors' Institution, London Chamber of Commerce, Institute of Builders, London Master Builders' Association, Quantity Surveyors' Association, National Federation of Building Trades Employers, Labour Conciliation and Arbitration Board, National Federation of Building Trades Operatives, London Trades Council, Garden Cities and Town Planning Association, London Association of Master Decorators, Clerk of Works Association, National Association of Operative Plasterers, Operative Stone Masons' Society, Slaters' and Tilers' Society, Association of Master Heating Engineers, Society of British Gas Industries, Society of Wood-cutting Machinists, Builders' Labourers' Union, Paviers and Street Masons, Operative Bricklayers' Society, Society of Carpenters and Joiners, Operative Plumbers' Association, House Painters' Society, Glass Blowers' Society, Furnishing Trades Association, Association of Master Monumental Masons, Pressed Brickmakers' Association, Stock Brick Manufacturers' Association, Timber Trades Federation.

The Rt. Hon. Dr. ADDISON, President of the Local Government Board, in formally opening the Conference, said how much the Government looked forward to receiving the support and assistance of the great professional organisations in connection with the housing programme. The hearty co-operation of the architect, the municipal engineer and the surveyor was essential to rapid progress. Anything those organisations could do to remove delays would render a great service to the country. He hoped that as a result of the practical papers before the Conference some means would be found by which the different trades concerned could be got together and a working understanding with regard to the National Housing scheme might be evolved. Unless a big output could be obtained it would be impossible to satisfy an urgent national demand. If this difficulty were not overcome not only would the progress of the housing schemes be affected, but permanent damage might be done to the industry of the country. He felt indebted to the Institute for inaugurating this conference of the trades concerned, and so trying to deal in practical fashion with the urgent defects with which they were confronted.

The President, having taken the chair, outlined the order of proceedings, and the following papers were then read:—The Finance Act, 1910, by Mr. A. A. Hudson, K.C. [*Hon. \*A.*]; The Present and Future Effect of Government Housing on Prices and Employment, by Major Harry Barnes, M.P. [*F.*]; The Competitive Contract System: Should it be Retained, Abolished or Modified? by Mr. F. H. A. Hardcastle [*A.*] (representing the Surveyors' Institution); Industrial Relations of Architect, Builder and Workman, by Mr. Edmond J. Hill (representing the Institute of Builders); Architects and Builders, by Mr.



Paul Waterhouse [F.]; The Mutual Relations of the Architect, Builder and Workman, by Mr. Harry Gill (representing the Society of Architects); The Mutual Relations of the Architect, Builder and Workman, by Mr. J. Murrey (representing the National Federation of Building Trades Operatives); The Competitive Contract System: Should it be Retained, Abolished or Modified? by Mr. Frederick L. Dove (representing the National Federation of Building Trades Employers).

At the close of the very interesting discussion in the afternoon, the following resolution was passed:

"That the R.I.B.A., the Surveyors' Institution, the Institute of Builders, the National Federation of Building Trades Employers and the National Federation of Building Trades Operatives do set up a Joint Consultative Board for establishing better conditions in the Building Trade."

#### Building Industries Consultative Board.

In pursuance of the Resolution above reported a preliminary meeting was held on Tuesday, 27th May, when the following representatives of the various bodies indicated attended:—

*Royal Institute of British Architects.*—Mr. Henry T. Hare, President R.I.B.A., in the chair, Mr. John W. Simpson [F.], Mr. Percival M. Fraser [F.], Mr. Delissa Joseph [F.].

*Surveyors' Institution.*—Mr. F. H. A. Hardcastle [A.].  
*Institute of Builders and National Federation of Building Trades Employers.*—Mr. Fredk. L. Dove, Mr. E. J. Hill, Mr. R. B. Chessum.

*National Federation of Building Trades Operatives.*—Mr. J. Murrey.

The following Resolution, moved by Mr. Delissa Joseph and seconded by Mr. J. Murrey, was carried:—"That the Joint Consultative Board for establishing better conditions in the Building Trade be constituted as follows:—

Five representatives of the National Federation of Building Trades Operatives.

Five architects, including the President of the R.I.B.A.

Five contractors, members of the Institute of Builders and the National Federation of Building Trades Employers.

Five surveyors, nominated by the Surveyors' Institution, including a member of the Quantity Surveyors' Association;

with power to add to their number, the President of the R.I.B.A. for the time being to be the Permanent President."

It was further Resolved that the Board be styled the "Building Industries Consultative Board," that the meetings be held in the rooms of the R.I.B.A., 9, Conduit Street, W., and that the first meeting of the fully constituted Board be held on Wednesday, 25th June, at 3.30 p.m.

#### The Address to Sir Aston Webb.

The following is the text of the Address, beautifully executed in gold on vellum by Mr. Graily Hewitt, recently presented to Sir Aston Webb on behalf of the Institute:—

To Sir ASTON WEBB, K.C.V.O., C.B., President of the Royal Academy,—

We, the undersigned Members of Council and Past Presidents of the R.I.B.A., are deputed to offer you the sincere congratulations of the Institute on your election as President of the Royal Academy and on this signal recognition of the fine qualities

displayed by you throughout your brilliant professional career. It has been your constant aim to promote the best interests of architecture, and the great services you have rendered inspire us with the confident hope that in the high office you are now called upon to fill you will bring all the arts into line and do all in your power to provide an open field for their fullest and finest expression. The Institute desires to assure you of its earnest wish for your success in the great work that lies before you.

[Here follow signatures of the President and Members of Council and Past Presidents.]

March 1919.

The Address was presented by a deputation from the Council headed by the President. Sir Aston Webb expressed the extreme gratification he felt at receiving this testimony of his brother architects' goodwill. Some of the happiest hours of his life, he said, had been passed at the Institute with them and nothing had given him greater pleasure than their congratulations upon the signal honour which had been done him.

#### Congratulations to Sir Reginald Blomfield.

Sir Reginald Blomfield, R.A., Past President, replying to the letter conveying the vote of congratulation passed at the Meeting of the 26th May, writes:—  
2nd June, 1919.

DEAR SIR,—I am greatly gratified by the congratulations voted at the General Meeting and conveyed to me in your letter of 30th May. I value them very highly and they recall to me the loyalty and enthusiasm of my colleagues which never failed me during my term of office at the Institute. Please convey my sincere thanks to the President, the Chairman, Mr. Simpson, and the members of the Institute for their very kind messages.—Yours faithfully,

REGINALD BLOMFIELD.

G. Northover, Esq.

#### Testimonial to Mr. Ernest Newton, R.A.

At a dinner given by the Council on the 19th May to the President and his predecessor in the chair, Mr. Ernest Newton, R.A., an Address, beautifully illuminated on vellum, was presented to Mr. Newton on behalf of the Institute, together with a silver salver and tankard, the gift of some eighty subscribers desirous of testifying their appreciation of his services to the country during the war. The following is the text of the Address:—

The Council of the Royal Institute of British Architects hereby offer to Mr. Ernest Newton, A.R.A., on behalf of the Institute and of the general body of British Architects, their thanks for and appreciation of his recent efficient and courteous discharge of duties at the Ministry of Munitions. The spirit in which Mr. Newton offered his assistance, the industry with which he fulfilled his task, the long labours which he uncomplainingly bore, and the benefits which he rendered not only to the Nation but to his professional brethren in a time of great

*difficulty, have merited the admiration and gratitude of all his brother architects, whose representatives wish in this dutiful Address to renew their expression of the affection and respect which they have long felt and long will feel for their colleague, Past President and friend.*

Mr. Newton, in a letter to the JOURNAL, writes: "May I be allowed to express my sincere thanks to my friends for the Address and testimonial presented to me on their behalf by the President. I value them very highly, not only because they are beautiful possessions, but as tokens of the esteem of my brother architects."

Few outside Mr. Newton's Department had any idea of the immense volume of work which passed through their hands. The general impression is that they were concerned only with ordinary private building. Extensive as this was, however, it formed only a comparatively small part of their functions. Building and construction work of every kind had to be dealt with: all factories (with the exception of controlled establishments and Government contracts), all railway construction and buildings, coal mines and colliery buildings, waterworks, gasworks, power-stations, drainage works, reservoirs, cold storage, margarine factories, tramway extensions and buildings, docks, harbours, shipyards, civil hospitals and all military hospitals not undertaken by Government, all Y.M.C.A. huts and other recreation buildings, canteens, hostels, and welfare buildings, municipal buildings of every kind, churches, farm-buildings, and cottages, and the reinstatement of damage caused by fire, aircraft or explosion. All these matters had to be enquired into in detail and dealt with according to proved urgency. Mr. Newton's Department had also, through the Building Labour Committee, of which he was Chairman, to control the building operatives' wages on all Government buildings; to administer the Sunday labour regulations, and to deal with alien labour in municipal factories and with the passports of skilled workmen. It was their task, too, to fix the amount of timber to be released by the Timber Controller for all buildings under licence, except controlled establishments and canteens, as well as those being built within the free limit. It may be mentioned that the free limit was a special bone of contention, and attacks against it were frequent. The limit, it is true, was a low one, but it enabled a good many people just to carry on. Not the least exacting part of the duties was the interviewing. Of the 40,000 callers on business matters, Mr. Newton personally interviewed some 10,000, and needless to say the art of cutting short the garrulous among them had to be sedulously cultivated. Some of the Department's activities were left behind when they were transferred from the Ministry of Munitions in 1918 to the Ministry of National Service. On leaving the Ministry of Munitions Mr. Newton was succeeded as Chairman of the Building Labour Committee by

Lord Askwith. Mr. Newton's Government work lasted nearly three years. Two years were spent at the Ministry of Munitions and one at the Ministry of National Service. His services at the Ministry of Munitions were rendered entirely *con amore*, no salary or emolument of any kind attaching to the position.

In returning thanks at the presentation above mentioned, Mr. Newton expressed his appreciation of the valuable assistance he had received from Mr. Digby Solomon [A.] in his successful endeavours to get the building restrictions removed.

#### A New Architect Knight.

A knighthood has been conferred upon Mr. Charles T. Ruthen, O.B.E. [F.], Deputy Controller of Accommodation, Office of Works; holds voluntarily the positions of Chief Inspector to the Cabinet Committee on Accommodation and Deputy Controller for the London area.

#### The Annual Elections: Scrutineers' Reports.

The results of the Annual Elections are recorded in the subjoined Reports of the Scrutineers, which were read at the Business General Meeting on Monday, 2nd June.

The Scrutineers appointed to count the votes for the election of the Council and Standing Committees for the Session 1919-1920 beg to report as follows:—610 envelopes were received—250 from Fellows, 355 from Associates, and 5 from Hon. Associates. Three were rejected as invalid. The result of the election is as follows:—

PRESIDENT.—Mr. John William Simpson (unopposed).  
PAST PRESIDENTS.—Mr. Henry Thomas Hare; Mr. Ernest Newton, R.A. (unopposed).

VICE-PRESIDENTS.—*Elected*: Edward Guy Dawber, 457 votes; Walter Cave, 423; Stanley Davenport Adshhead, 391; Alfred William Stephens Cross, 377.—*Not Elected*: Percy Scott Worthington, 360.

HON. SECRETARY.—Mr. Arthur Keen (unopposed).

MEMBERS OF COUNCIL: FELLOWS.—*Elected*: Paul Waterhouse, 383 votes; Henry Vaughan Lanchester, 378; Sir John James Burnet, 354; Professor William Richard Lethaby, 342; Giles Gilbert Scott, A.R.A., 321; Robert Atkinson, 318; Herbert Duncan Searles-Wood, 317; William Curtis Green, 305; Professor Frederick Moore Simpson, 304; Andrew Noble Prentice, 301; Major Harry Barnes, M.P., 278; George Hubbard, F.S.A., 272; Thomas Geoffrey Lucas, 249; Banister Flight Fletcher, 242; Charles Stanley Peach, 239; Henry Philip Burke Downing, 237; John James Joass, 232; \*Max Clarke, 231; \*Sydney Perks, 231.—*Not Elected*: Henry Martineau Fletcher, 223; William Edward Riley, 220; Albert Edward Richardson, 211; Alexander George Robertson Mackenzie, 202; William Woodward, 198; Samuel Perkins Pick, 196; William Alexander Harvey, 195; Herbert Hardy Wigglesworth, 175; Alfred Saxon Snell, 170; Bernard Dicksee, 161; William Gillbee Scott, 157; Harry Redfern, 149; James Thorburn Cackett, 139; Courtenay Melville Crickmer, 136; William Edward Crompton, 127; William Henry White, 124; Alfred Cox, 119; Charles Lovett Gill, 113; Frederick Ernest Pearce Edwards, 112; Delissa Joseph, 94; Charles Henry Brodie, 85; Percival Maurice Fraser, 82.

605 voting papers received, of which 42 were invalid.

\*The election of the two candidates receiving an equality of votes for the eighteenth place on the Council was determined by ballot at the meeting in accordance with By-law 33, when there voted: for Mr. Max Clarke, 9; for Mr. Sydney Perks, 7. (Scrutineers: Messrs. Percival M. Fraser and Herbert Shepherd.)

**ASSOCIATE-MEMBERS OF COUNCIL.**—*Elected*: Edwin Stanley Hall, 362 votes; Professor Leslie Patrick Abercrombie, 359; William Robert Davidge, 311; Digby Lewis Solomon, 271; Horace William Cubitt, 250; James Stockdale Harrison, 249.—*Not Elected*: George Leonard Elkington, 243; Leonard Rome Guthrie, 237; Kensington Gammell, 190; Robert John Angel, 186; Herbert Shepherd, 184; Frederick Robert Hiorns, 123; Arthur William Hennings, 116.

606 voting papers were received, of which 14 were invalid.

**REPRESENTATIVES OF ALLIED SOCIETIES** (all unopposed).—Herbert Tudor Buckland (Birmingham); Charles Septimus Errington (Northern); John Alfred Gotch, F.S.A. (Northampton); William Carby Hall (Leeds and W. Yorks.); John Keppie (Glasgow); Llewellyn Kitchen (York and E. Yorks.); Isaac Taylor (Manchester); Harry Garnham Watkins (Nottingham); George Watt (Aberdeen).

**REPRESENTATIVE OF THE ARCHITECTURAL ASSOCIATION.**—Maurice Everett Webb, M.C., D.S.O. (unopposed).

**HON. AUDITORS.**—Alfred Harold Goslett; Charles Edward Hutchinson (unopposed).

**Scrutineers.**—F. Hooper, P. J. Toop, R. W. Collier, Guy Church, W. Franklyn Murrell, Hylton B. Elkington, Ernest G. Allen, H. G. Crothall, Albert E. Bullock, Francis Fowler, Walter R. Jaggard, Lionel U. Grace, C. H. Brodie (Chairman).

**ART STANDING COMMITTEE: FELLOWS.**—*Elected*: Ernest Newton, R.A., 514 votes; John Alfred Gotch, 434; Giles Gilbert Scott, A.R.A., 429; Sir Aston Webb, 414; Halsey Ricardo, 396; Professor Frederick Moore Simpson, 365; Sidney Kyffin Greenslade, 356; Arthur Keen, 355; John James Joass, 291; Henry Philip Burke Downing, 286.—*Not Elected*: Maurice Everett Webb, 267; Edwin Thomas Hall, 266; Walter Tapper, 255; Harry Redfern, 205; Alfred Cox, 198; Harry Sirt, 126.

**ASSOCIATES.**—*Elected*: James Black Fulton, 422; Hubert Springford East, 408; Ormond Maxwell Ayrton, 395; Edwin Gunn, 384; Leonard Rome Guthrie, 381; William Arthur Webb, 326.—*Not Elected*: John Ernest Newberry, 288; John Stevens Lee, 257.

570 voting papers received, of which 4 were invalid.

**Scrutineers.**—W. Gordon Parkin, Harold R. Luck, C. H. Brodie (Chairman).

**LITERATURE STANDING COMMITTEE: FELLOWS.**—*Elected*: Percy Leslie Waterhouse, 452 votes; Henry Martineau Fletcher, 422; Arthur Stratton, 415; Edwin Alfred Rickards, 409; Albert Edward Richardson, 394; Henry Heathcote Statham, 392; Charles Harrison Townsend, 376; Hubert Christian Corlette, 375; Herbert Hardy Wigglesworth, 333; Louis Ambler, 321.—*Not Elected*: Charles Lovett Gill, 313; David Theodore Fyfe, 302; William Edward Vernon Crompton, 294; Herbert George Ibberson, 244.

**ASSOCIATES.**—*Elected*: William Godfrey Newton, 428; Leslie Patrick Abercrombie, 388; William Henry Ward, 368; John Alan Slater, 341; Arthur Trystan Edwards, 284; John Hubert Worthington, 261.—*Not Elected*: Martin Shaw Briggs, 217; Stanley Churchill Ramsey, 181; William Henry Ansell, 177; Frederick Robert Hiorns, 149; Charles Edward Sayer, 98; Leo Sylvester Sullivan, 97.

569 voting papers were received, of which 5 were invalid.

**Scrutineers.**—Sydney Tatchell, Charles Woodward, C. H. Brodie (Chairman).

**PRACTICE STANDING COMMITTEE: FELLOWS.**—*Elected*: D. B. Niven, 468 votes; W. H. Atkin-Berry, 466; Sydney Perks, 439; H. A. Satchell, 434; W. G. Hunt, 426; H. V. Ashley, 424; W. Woodward, 424; W. Gillbee Scott, 421; F. W. Troup, 419; F. A. Powell, 387.—*Not Elected*: Delissa Joseph, 294.

**ASSOCIATES.**—*Elected*: Horace William Cubitt, Harry Valentine Milner Emerson, Kensington Gammell, Herbert

Haylock Golding, Charles Edward Hutchinson, John Douglas Scott (all unopposed).

500 papers were handed to us, of which 6 were invalid.

**Scrutineers.**—Roland Welch, C. E. Hutchinson, C. H. Brodie (Chairman).

**SCIENCE STANDING COMMITTEE: FELLOWS.**—*Elected*: Herbert Duncan Searles-Wood, 468 votes; Harry Percy Adams, 464; Max Clarke, 459; George Hubbard, 456; Charles Stanley Peach, 450; George Hornblower, 423; Percival Maurice Fraser, 393; Allan Ovenden Colliard, 376; William Henry White, 360; Henry Albert Saul, 360.—*Not Elected*: Henry Percival Monekton, 351; Osborn Cluse Hills, 332.

**ASSOCIATES.**—*Elected*: Edwin Stanley Hall, 434; George Leonard Elkington, 414; Charles Archibald Daubney, 402; Digby Lewis Solomon, 394; Herbert Shepherd, 368; John Hatton Markham, 346.—*Not Elected*: John Alfred Cheston, 342; James Ernest Franck, 276.

571 voting papers were received of which 4 were invalid.

**Scrutineers.**—O. S. Doll, Paget L. Baxter, C. H. Brodie (Chairman).

### Exhibition of Drawings by Mr. Crace.

Towards the end of the month a selection from the valuable drawings presented to the Library by Mr. John D. Crace [*Hon. A.*] will be exhibited in the Institute galleries. The drawings were made by Mr. Crace at different times during the past half-century, and will be chiefly illustrative of Italian colour decoration and ornament of the Renaissance period, although specimens of earlier work will also be included. Apart from their historical and artistic value, as these studies were executed "for his own instruction and with the object of recording the true tones of colour and their correct relations to one another," this collection forms an important series of examples for the guidance of the student. Besides the mounted drawings there will also be on view two folio sketchbooks, one containing water-colour sketches illustrating a Spanish tour, and the other a large miscellaneous collection of architectural detail, ornament and decoration.

### MINUTES.

At the Adjourned Special General Meeting for the consideration of the Revised Scale of Professional Charges, held Monday, 12th May, 1919, at 8 p.m.—Present: Mr. Henry T. Hare, President, in the Chair; 45 Fellows (including 10 members of the Council) and 41 Associates (including 3 members of the Council):

The President ruled out of order, as being a direct negative, the motion of which Mr. Herbert W. Wills [*F.*] had given notice—viz., "That the Revised Scale be rejected in its entirety, and that no action be taken in the matter."

Consideration of the remainder of the Scale, beginning with clause 15, was then proceeded with.

Clause 15, with the final paragraph eliminated, was adopted.

The remaining clauses of the Scale were adopted.

It was agreed that the amendments made in the Scale at the various meetings should be submitted to the Institute Solicitors for their approval of the wording.

The President then moved the adoption of the Scale as a whole.

The resolution was seconded by Mr. W. Gillbee Scott [*F.*].

In the discussion which ensued, Mr. Herbert W. Wills [F.], Mr. J. H. Kennard [A.], Mr. Paul Waterhouse [F.], Mr. E. J. Sadgrove [F.], and Mr. Edwin T. Hall [F.] spoke against the motion.

The resolution having been put to the vote was declared carried, 57 voting for, and 16 against.

Mr. Wm. Woodward [F.] moved:—"That the operation of the Scale be deferred for twelve months from this date."

Mr. H. Hardwicke Langston [A.] seconded.

The resolution being put to the vote was defeated by two votes—34 voting in its favour, and 36 against.

The proceedings terminated at 9.30.

At the Fourteenth General Meeting (Ordinary) of the Session 1918-19, held Monday, 26th May, 1919, at 8 p.m.—Present: Mr. John W. Simpson, Past Vice-President, in the Chair; 18 Fellows (including 5 members of the Council); 14 Associates (including 1 member of the Council); and 2 Licentiates—the Minutes of the Meeting held 12th May were taken as read and signed as correct.

Mr. Arthur Keen [F.], acting for the Hon. Secretary, announced that since the last Meeting intimation had been received that the following members had been killed in the War:—Capt. Francis Renton Barry, 5th (Reserve) East Surrey Regiment, *Associate*, elected 1912; Lieut. David Arthur Carmichael, *Associate*, elected 1915; Lieut. Henry Hubert Fraser, 3rd Yorkshire Regiment, *Pugin Student* 1910, elected *Associate* 1913; Lieut. Albert Carr Notley, Lancashire Regiment, *Associate*, elected 1906; Capt. William Noel Jobson Moscrop, M.C., 5th Durham Light Infantry, *Student*. It was Resolved that the deepest regrets of the Institute for the loss of these members be entered on the Minutes, and that a message of sympathy and condolence be conveyed to their nearest relatives.

The decease was also announced of the following members:—Walter Albert Catlow, elected *Fellow* 1904; Alexander Skirving, elected *Fellow* 1906; Harold Arthur Woodington, elected *Associate* 1890; Charles Crawford, elected *Licentiate* 1912; Frederick William Gardiner, elected *Licentiate* 1911; Frank Moore Kirby, elected *Licentiate* 1911; Charles Buis (Brussels), elected *Honorary Corresponding Member* 1894.

The Chairman referred to the honour of knighthood recently bestowed upon Mr. Reginald Blomfield, R.A., Past President, Royal Gold Medallist, and the Meeting resolved that a message expressive of the Institute's hearty congratulations be forwarded to Sir Reginald.

A Paper on RAILROAD TERMINALS OF THE UNITED STATES, contributed by Mr. Ben Lubschez, F.A.I.A., of New York, was read by Mr. Arthur Keen, and on the motion of Mr. Paul Waterhouse [F.], seconded by Mr. Delias Joseph [F.], votes of thanks to the author and reader of the Paper were carried by acclamation.

The proceedings closed and the Meeting rose at 9.15 p.m.

At the Fifteenth General Meeting (Business) of the Session 1918-19, held Monday, 2nd June, 1919, at 8 p.m.—Present: Mr. Walter Cave, *Vice-President*, in the Chair; several Fellows and Associates (including 2 Members of the Council and 1 Associate Member of Council)—the Minutes of the Meeting held 26th May were taken as read and signed as correct.

The Chairman having announced the decease of Mr. Samuel Perkins Pick, *Member of Council*, it was resolved that an expression of the Institute's sorrowful regret for his loss be entered on the Minutes, and that a message of sympathy and condolence be forwarded to his nearest relatives.

Mr. Arthur Keen [F.], acting as Hon. Secretary, read the Report of the Scrutineers giving the results of the elections of the Officers, Council, and Standing Committees for the Session 1919-20.

It having been reported that Messrs. Max Clarke and Sydney Perks had received an equal number of votes for the eighteenth place on the list of Members of Council, the election was determined by ballot of the members present as prescribed by By-law 33, and Messrs. Percival M. Fraser [F.] and Herbert Shepherd [A.] having been appointed Scrutineers, the results of the ballot were declared as follows: For Mr. Max Clarke, 9 votes; for Mr. Sydney Perks, 7 votes.

The Chairman declared the Officers, Council, and Standing Committees duly elected in accordance with the Scrutineers' Reports, and a vote of thanks was passed by acclamation to the Scrutineers for their labours in connection with the elections.

The proceedings terminated at 8.30 p.m.

## COMPETITIONS.

### Ruislip Housing Competition.

The negotiations of the R.I.B.A. Competitions Committee with the promoters of the above competition have had a satisfactory result, and the clauses of the conditions to which exception was taken have been amended to bring them into line with the R.I.B.A. Regulations. The ban upon the competition is therefore withdrawn.

### Glasgow Corporation Housing Competition.

The Competitions Committee of the Royal Institute of British Architects requests Members and Licentiates to refrain from taking part in the above competition, the conditions not being in conformity with the Institute Regulations for Architectural Competitions. The Committee is in communication with the promoters of the competition with a view to the amendment of the conditions.

## NOTICES.

### Presentation of the Royal Gold Medal.

THE SIXTEENTH GENERAL MEETING (Ordinary) of the Session 1918-19 will be held MONDAY, 23rd JUNE 1919, at 8 p.m., for the following purposes:—

To read the Minutes of the Meeting held 16th June.

To admit members attending for the first time since their election.

To present the ROYAL GOLD MEDAL FOR ARCHITECTURE to MR. LEONARD STOKES, Past President.

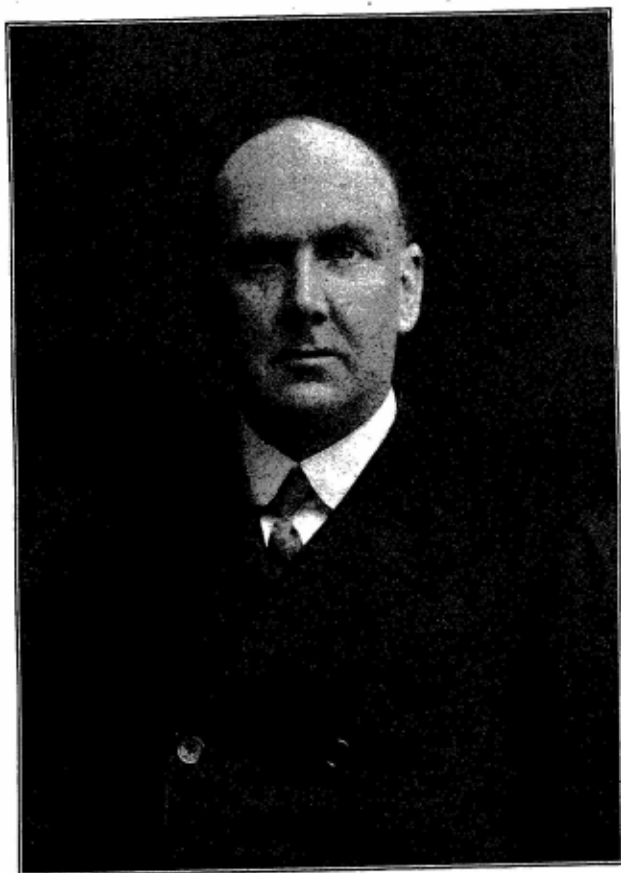
### The Revised Scale of Professional Charges.

As will be seen by the Minutes of the Meeting of the 12th May, published in this issue, the Revised Scale has been passed and its issue sanctioned. Copies are now on sale at the Institute, price sixpence each.

Messrs. Kidner & Barry, of 23 Old Broad Street, E.C., have three or four Architects' Drawing Cabinets for disposal, Double-elephant Size; also a pine table-top, 8 ft. 6 in. by 4 ft. 8 in. for large drawings. For details, etc., apply as above.







*Leonard Stokes.*

LEONARD STOKES, *Past President R.I.B.A.*  
ROYAL GOLD MEDALLIST 1919.



### THE ROYAL GOLD MEDAL.

Presentation to Mr. LEONARD STOKES, *Past President R.I.B.A.*, at the General Meeting,  
Monday, 23rd June, 1919.

ADDRESS BY MR. HENRY T. HARE, *President.*

LADIES AND GENTLEMEN,—It is a great pleasure to me that the last function which falls to my lot as President of this Institute should be the presentation of the Royal Gold Medal for Architecture to my old friend, Leonard Stokes. For many years his presence within these walls was constant and frequent, and no face was more familiar to us. We welcome and greet him to-day after a lapse of some years, and are pleased to have this opportunity of showing our esteem and appreciation both of his architectural work and his personal character.

It is, I think, necessary on these occasions to repeat the purpose and meaning of the presentation of the Royal Gold Medal, which is accorded by His Majesty the King and awarded on the advice and suggestion of the Institute each year. Its object, to quote from the wording of the regulations laid down, is the "promotion of architecture" and it is "annually conferred upon some distinguished architect or man of science or letters, who has designed or executed a building of high merit or produced a work tending to promote or facilitate the knowledge of architecture or the various branches of sciences connected therewith." The roll of recipients, since its institution in 1848, is a formidable and comprehensive one, and includes names known and honoured throughout the world. In adding Mr. Stokes's name to that list we feel satisfied that we are but carrying on its high tradition, for Mr. Stokes's name has been familiar to us nearly forty years and has always been associated with architectural works of the highest excellence and very strongly marked character.

I must, as part of my duty, give a brief sketch of Mr. Stokes's career. He was articled to Mr. S. J. Nicholl and afterwards spent some time in the office of a quantity surveyor, an experience which I am sure he must have found of great service to him in after years, for there is no method by which every part of the anatomy of a building can be so well grasped or understood as by actually taking out the bill of quantities. He subsequently acted as clerk of works at Christ Church Cathedral, Dublin, under Mr. Street, another experience of the more practical side of our work. Later he was in Mr. Street's office, and also with Mr. Colcutt and Mr. St. Aubyn. This was followed by a period of travel and study in the Eastern counties, and in 1880, on being awarded the Pugin Studentship, by a tour in Lincolnshire and Yorkshire. In 1881 he was in Germany and Italy.

His first work was the Church of the Sacred Heart, Exeter, carried out in collaboration with Mr. Ware of Exeter. This was followed by St. Patrick's Schools, Southampton, and numerous houses, churches and schools. One of the most notable of his churches is St. Clare's, Liverpool, a very beautiful and characteristic example of his ecclesiastical work. Other churches are All Souls', Folkestone; St. Joseph's, Maidenhead; All Souls', Peterborough; St. Augustine's, Sudbury, and numerous others.

Of domestic work there is a very long list, too long to enumerate in detail, but amongst them may be mentioned Minterne House, Dorset; Shooter's Hill House, Pangbourne, and his own residence at Woldingham.

Amongst his secular work we are most of us familiar with the series of buildings carried out for the National Telephone Co. in London and other cities. These are specially notable as showing how a purely utilitarian building may be made architecturally interesting. We also have in London a very good example of municipal work in his Town Hall for Chelsea.

The most notable work, however, which he has carried out during the last few years is the new buildings for Emmanuel College, Cambridge, a work which, in a city of fine buildings, ancient and modern, holds its own for character and general excellence.

I have omitted many fine works from the list quoted, but we have arranged in the adjoining room a selection of illustrations which will supply some of the omissions, and all of which will justify the high estimation in which his work is held by his brother architects.

Mr. Stokes was President of the Architectural Association at a critical period of its career when it was first initiating its scheme of architectural education, a scheme which has since developed into one of the most important schools in the country. To his energy and foresight was largely due its early success. Later on, when the Association took over the premises of the Architectural Museum, he acted as architect in the rebuilding and adaptation of the building, a very difficult and thankless task, which was carried out with entire success.

After many years of service as a member of the R.I.B.A. Council, he became President in 1910, and during the two years of his occupation of that position made a determined effort to take the first steps towards the unifying of the profession. After much tedious and tiresome negotiation a scheme was arrived at which promised to have accomplished this, but unfortunately serious opposition from unexpected quarters made its realisation impossible, a result I think to be greatly regretted. Had it been accomplished the profession would to-day have been in a much stronger and more influential position. One still hopes that his labours in this direction may some day prove to have laid the foundation on which ultimate unity may be achieved.

I have probably said enough to show that Mr. Stokes, during the many years of his active career, has occupied a very prominent place in the world of architecture, and that his influence has been such as to justify in every way the honour which we are pleased to be able to render him to-day. It must be felt by everyone that our list of Gold Medalists would undoubtedly be incomplete if it did not include his name.

I may conclude with a sincere hope that he may, for many years, continue to produce such works as have interested and delighted us in the past.

Mr. STOKES, having been invested with the Medal, addressed the assembly as follows:—

MR. PRESIDENT, LADIES AND GENTLEMEN,—It is very kind of you to have given me such a warm welcome, but after the eulogistic terms in which Mr. Hare has expressed your feelings, I hardly know how to thank you. There are many ways of thanking people for bestowing an honour—mostly, I think, wrong. There is the man who bubbles over with his

own importance: he gets tittered at by his audience, and goes home a sadder but not a much wiser man. The other method is to grovel in the gutter and pretend you have not done anything. I will not quite do that. All I will say is, that the responsibility for selecting me as the recipient of the Medal must rest on your shoulders: you probably know me better than I know myself, and if you think me good enough for the Royal Gold Medal, I can only thank you for thinking so. I



certainly am grateful for the honour you have done me. I have had many letters of congratulation on the event, among them one from an old friend—I will not mention his name—who said the honour of getting the Gold Medal was an honour to the recipient, but also gratifying to the family, wife, daughters, and sons; even uncles received one with much greater favour when one went to see them. (Laughter.) I hope I shall not have to try that, though if I do, it will be pleasant to reflect that even an uncle will receive one graciously if one goes to him with a gold medal. (Laughter.) Mr. Hare has painted me in very elaborate colours: he even dragged in my private character, which I hoped might escape. However, he did not attempt to say much about it, so I will not enlarge on that. He drew a very pleasing picture. It is not so very long ago that I was represented here in a dressing-gown,\* and that did not seem altogether to give satisfaction. Personally, I think a dressing-gown is more suited to my style of beauty than are all the glowing terms that Mr. Hare has painted me in. I do not know that I can say more. It is very hard indeed to thank people for a distinction bestowed upon one. One never knows where to stop. It may interest you to know that, just as I was coming out, a kind friend in official quarters telephoned and said, "Peace has been signed." (Applause.) I hope it is true. If it is true, then three great events will always be remembered by us as falling on the same day: Leonard Stokes got the Gold Medal—I put that first, of course (laughter)—it is the Prince of Wales's birthday anniversary, and it is the day Peace was signed. (Applause.)

Sir ASTON WEBB, P.R.A., K.C.V.O., C.B., *Past President, Royal Gold Medalist*: Sir, I hope I shall not be interrupting the proceedings if I am allowed to say one or two words of congratulation to Leonard Stokes on the great honour he has received to-day. I feel sure there is nobody in this room who is more pleased about it than I am myself. I have known Leonard Stokes all our professional life. He has the advantage of being a good deal younger than me, but I remember him from the time he was with Mr. Street. And, looking over his work in the other room, it made me feel quite young again. I remember every one of those buildings, and I always looked at them with the greatest interest and admiration as one after the other was erected. I have looked at them with the same admiration to-night as I used to regard them. I think Stokes's work, if I may say so, has stood the test of time almost better than any work I know. I have not always seen eye to eye with Leonard Stokes in the various affairs of the Architectural Association and this Institute—and I rather respect a man, Sir, who does not always agree with me—who is able to disagree. And, after all, I daresay sometimes he was right, and I am quite sure that sometimes I was. But, as far as I am concerned, that is all over, and I am most de-

lighted to see that he has the Gold Medal. My only surprise is that he did not receive it long ago. I venture to add my best congratulations to him.

Mr. PAUL WATERHOUSE: I am not an authorised speaker to-night, and if I rise to add something to what Sir Aston Webb has said, it is merely because I cannot altogether refrain from doing what I should so much like to do. It is a great pleasure to me to be able to say, on behalf of many of you here, as well as myself, how delighted we all are that our old friend Mr. Leonard Stokes has got this great honour, which, to our knowledge, he so richly deserves. What has pleased me very much this evening is the discovery that he is the same old Stokes—though I ought really to say the same young Stokes—his speech is the same, and his other characteristics, too. I remember perhaps as well as anybody here—for there are others who were there on those occasions—our pleasant assemblies round a hard wood table in Stokes's old and now destroyed picturesque office, when we discussed the future of the Architectural Association, with the assistance of excellent cigars and some very good whisky. We worked very hard on those occasions. (Laughter.) You laugh, gentlemen, but the refreshment was deeply needed, for a very great deal of work was done there, stimulated entirely by the man who was our genial host and most energetic leader.

Sir ERNEST GEORGE, R.A., *Past President and Royal Gold Medalist*: I would like to say what pleasure this occasion gives me. I knew friend Stokes when I was hardly of middle age and he was a lad. We first met when he was sketching in a German town, and I was doing the same thing: and from that time I have watched his vigorous and interesting work and been able to appreciate his charming character and personality. I have found his work always interesting, thoughtful and fresh, never common. I think it adds to the importance of Gold Medalists that he should be one of them. I wish him health and long life.

Mr. MAURICE WEBB, D.S.O., M.C. [F.], *President of the Architectural Association*: On behalf of the Architectural Association, I should like to say with what immense pleasure we saw that Mr. Stokes had been recommended for the Royal Gold Medal. I cannot claim to be as intimate with Mr. Stokes as is my father or Mr. Waterhouse or Sir Ernest George; but all through his life, I believe, he has worked for the benefit of the younger generation. (Applause.) His work for our Association shows that, and I have personally come into contact with many men to whom Mr. Stokes has given a helping hand, not only in time of trouble, but in his office he has done everything he could for the younger men, and on their behalf I wish to say with what great pleasure we see him honoured to-night. (Applause.)

Mr. WALTER MILLARD [A.]: Should it happen that there is still anybody here who has known Leonard Stokes more than forty years, I will give way to him. I have before mentioned in this room that the first time I heard the name "Leonard Stokes" I

\* Mr. Stokes is referring to the portrait painted for the Institute by Sir William Orpen, A.R.A.

enquired, "Who is he?" And the answer came back, up a speaking tube, "He is the fellow from the quantity surveyor's." I still said that I was in the dark. However, I had to learn, and I have gone on learning ever since. I have learned what he was as a student, I have learned what he is as a man, and I have learned what he can do as an architect. I only wish to call attention to that little point: that he was the "fellow from the quantity surveyor's." That does not mean that he began in a quantity surveyor's office, but a wise dispensation had placed him in a quantity surveyor's office after serving his articles to an architect, and I have often thought that that was, perhaps, a key to the story of his success in the profession. It is something for the rest of us to think about, as to whether it is not good for us to use this key for opening the door to the garden of architectural practice. It was not for long he stayed at the quantity surveyor's, perhaps, yet I think he would be the first to tell us that every minute of the time he did spend there was worth much to him. I wish to join with others in congratulations to him, and to say how glad I am that the Institute is able to honour him with this Medal as a man who has left his mark on English architecture. (Applause.)

Mr. FRANCIS HOOPER [F.]: I am very pleased indeed that Mr. Maurice Webb should have emphasised what the Architectural Association owes to Mr. Stokes, and also how many men owe a great stimulus and help in life to his personal influence. The share that he took in establishing the evening schools of the Architectural Association, which have had so big an influence upon the architectural training of the country, is outstanding, and will probably be appreciated in the future even more than it is to-day. For years the Architectural Association occupied premises which he had so skilfully adapted to their use, and in transferring it to Tufon Street, I think I am right in saying, it was really the introduction to the Royal patronage of which the Architectural Association is now proud. Further, there is a matter which has not, so far, been alluded to, and that is Mr. Stokes's influence, during his presidency, in carrying through so successfully the International Conference in connection with Town Planning. That was a land-mark in the history of the Institute of the very greatest importance, and one which may, perhaps, have paved the way to a step which we all so rejoice in, an architect as President of the Royal Academy. (Applause.) I am not able to look back quite so far as are some here, but I think my friendship with Mr. Stokes dates pretty nearly to forty years ago, but I never remember anything approaching the interest which the public took in architecture during the time that the galleries of the Academy were decorated with plans, models and photographs of architectural conceptions, as well as actual work executed. And if the younger men are spared to see a greater interest on the part of the public at large, and on the part of the

Government and the various public authorities of our land, I think we may say that that interest was stimulated by Leonard Stokes. (Applause.)

Mr. HERBERT A. WELCH [A.]: Any claim I might have to speak I ask that I may utilise in order to say a few words on behalf of the younger generation of architects. I would like, for a moment, to pay my modest tribute to Mr. Leonard Stokes, and to congratulate him on the honour which has been conferred upon him, and which he so richly deserves. My first live interest in the Institute after I came to London I vividly recollect was due to the fact that I found in it so live a member as Mr. Stokes. On every occasion when I was able to be at its meetings I was delighted to feel that there was a man who was so high in the esteem of his brother architects, and so progressive and interested, not only in the profession itself, but in the younger generation of architects. Speaking generally, I know of no man in the Institute at present who has helped forward the younger men more than has Mr. Leonard Stokes. I met him some fifteen years ago, when I was studying for the Institute examinations and also pursuing my ordinary studies in architecture at University College School, where he was the Visitor for two seasons. I keenly remember how deeply I felt indebted to him, and I hope he will accept my thanks for the very valuable help I received under his able tuition at that time. That other men were helped as much as myself was evident on every occasion when Mr. Stokes was present. I think there are two points of view that young students take in regard to those who watch and criticise their work: there is the admiration for the man's work, and there is the admiration for the man and for his work. For one there seems to be a greater delight and personal interest than in the case of the other, because, for some reason, it is not given to us all to get right into the minds of those we are trying to teach and help forward. Mr. Stokes had the happy knack of being able to plant himself into the mind and manner of work of every student with whom he came into contact. That was my experience of him particularly. On one occasion he much amused the class there by telling the man next to me that he had quite a lot of brains, but that they were dreadfully scattered, and that he must try and knit them up and make something of them. I know the man was awfully delighted with the criticism, and he did try hard subsequently, with considerable success. There was another man to whom Mr. Stokes had been very forbearing, until on one occasion he seriously asked him whether he had ever considered any other calling than that of an architect. He said it so nicely, that the man went away impressed, but not annoyed. That was, at least, what I thought at the time, and my opinion was confirmed, because I met him later and, thinking he was still following the same delightful calling, I asked him how he was getting on. He said: "Stokes impressed me so much with that remark he made at

University College that I have dropped architecture altogether." The remark was a help to that man, who obviously ought never to have taken up architecture, and that is a tribute to the man we are honouring tonight. I have much pleasure in adding my appreciation of the character and the architecture of Leonard Stokes, and I wish him health, happiness and joy for the remainder of his life. (Loud applause.)

The following telegram was received from Mr. Edwin J. Sadgrove [F.]: "Best wishes from President Society of Architects to Leonard Stokes, with recollections of efforts towards unity which were nearly successful.—SADGROVE."

## THE ROOF OF WESTMINSTER HALL.

On the 12th June, 1919, the Science Standing Committee of the Royal Institute of British Architects paid a second visit to Westminster Hall to inspect, under the personal guidance of Sir Frank Baines, Principal Architect of H.M. Office of Works, what is being done to repair, strengthen and maintain the roof.

A model, representing the main timbers of two trusses and the included bay of purlins and rafters, to a scale of half-inch to the foot, was first inspected and the chief points affected by decay were pointed out. These were seen to be almost invariably situated in the darkest parts of the roof and at the junction of timbers with one another, causing a serious diminution of section at important bearings with a consequent distortion and settlement in the roof as a whole. The bearings at the wall heads and the joints at the ends of the main collar beams were the most seriously decayed portions of the trusses, but the decay is very general in all parts of the timbers remote from observation from the floor of the Hall. In the bays between the trusses the purlins are severely overtaxed by the weights they have had to support and by the destruction of the wood-worm, both in their centres and at their bearings upon the trusses. In some cases these great timbers are reduced to a shell so fragile as to require sandwiching with new timber to prevent them breaking with their own weight when being removed from the roof.

The positions of the patches and repairs formerly executed were shown on the model and their structural inutility discussed. In many cases the patches merely added dead weight to the trusses they were intended to assist. The long raking struts from hammer-posts to shoulder of the lower principal rafters are a notable example of this, for however good their seatings upon the wall may have been when they were erected, they are now almost invariably found to be fretted away by the action of the *Xestobium Tessellatum*. In any case the inefficient application of their upper ends to the underside of the lower principal leaves it open to doubt whether they were ever structurally efficient.

Of the tie rods shown in the model, those penetrating the principal rafters and connecting them with the hammer-beams and the lower curved struts are the oldest. These have undoubtedly served to maintain a precarious state of equilibrium in timbers too severely damaged by excessive stress and decay to have stood any longer by themselves.

These rods, however, have induced bending in the principal rafters and will all be removed. They were in some cases provided with slots and wedges in place of nuts, and were composed of short lengths of iron very imperfectly welded together. They were taxed to the utmost by the stresses involved and were with difficulty withdrawn from the timbers without breaking, owing to their fragmentary construction and bad welding.

The larger tie-bars inclining up from the feet of the lower principals on the wall heads to the crown posts above the main collar beams were inserted by Sir Charles Barry when he removed the buttresses on the East side of the Hall. These bars are applied in such a manner as to add to the distortion of the old timbers, and in fact if tightened up would have further endangered the stability of the roof. They were doubtless placed in position to restrain a supposed tendency of the roof to spread apart at the wall head: no outward spread actually occurs at a lower point than that to which the tie bars are applied and their function has been to increase a serious tendency of the hammer-beam and hammer-post to swing bodily into the Hall. In some cases this movement has since gone on to the extent of freeing the tie bars of any action whatever and leaving them hanging loose in their bore holes in the timbers. That some of them were originally tightened up is shown by the bent condition of the pin connecting their upper ends to the crown-post.

Under the action of the in-swinging tendency of the hammer-beam and hammer-post the bearing of the old timbers upon the wall has been entirely disconnected, and the weights are borne upon the lowest segment of the great arch rib and the lower curved strut. As much as an inch of air space is sometimes found between the wall head and the hammer-beam. Alterations in the balance due to the decay of the pole plates, which originally helped to load the wall ends of the hammer-posts, may be charged with some part of the disconnection.

Specimens of decayed timber from different parts of the roof were inspected by the Committee. Decay in the purlins, wall posts and the bearing end of a wall post removed from its corbel, were among the specimens. In the last mentioned example it was noted that the previous ineffective and trivial patches concealed the decay without improving the structure, and, in consequence of the unequal pressures, a further movement in the descending timbers snapped off the projecting part of the stone corbel, which was held pinned to the wall by the oblique pressure of the foot of the great arch rib.

The finished appearance of the work of repair was observed in trusses 9 and 10, and the included bay with the new ventilating *fièche* above. The steelwork of the new trusses, painted a dull brown, is barely visible behind and among the old timbers which have been conserved in exactly the same positions as they were found. In all cases the steel is kept away to the further side of the timber, and even where visible from below is more in the shadow than the timber adjoining it.

The Committee then mounted the stages and were shown a series of fragments belonging to the Norman walls of William Rufus's Hall completed in 1099. The fragments of arches and pillars indicate the existence formerly of a very beautiful arcade extending along both side walls of the Hall from end to end. The design of the arcade has been made out from the fragments of stonework and proves to have been set out on a fairly uniform basis throughout, with only such irregularities as Norman builders allowed themselves in detail, such as crowding up the last bays by giving the arches smaller spans, and altering the mortar joints from one-eighth to two inches in width when convenient.

Large Norman window arches, spaced on the average about 19 feet 9 inches apart, centre to centre, are separated from one another by two smaller arches at a lower level, supported upon groups of four 8-inch diameter freestone shafts. The four cushion capitals are made of separate stones, but the abacus block unites the group into a sufficiently solid pier to support the arches.

These Norman remains have involved an unexpected structural problem, as in some cases the original Norman wall passage remains as a cavity in the pier between one perpendicular window and the next. The piers were calculated as being of comparatively poor material but solid throughout, and the presence of a cavity seriously weakens the pier unless strengthening works are undertaken. A scheme has been prepared, approved by the Ancient Monuments Board, whereby certain of the cavities will be preserved and opened up to public inspection. The most suitable cavities, in which the Norman work is best preserved, will be chosen for this treatment, and the weakening effect of the cavity will be made good by the careful insertion of new material in suitable positions, without obtruding anything new into view from the Hall.

The steel reinforcement in progress was then inspected and the design of the new work explained. Each new steel truss, with the solid timber between plates, is a complete framed structure capable of supporting the whole of the dead load and wind-pressure and applying the resultant pressures through suitably shaped bed plates to the massive wall tops, the old timbers acting as web members.

Avoidance of anything that would disfigure the ancient outlines of the roof was made a primary

consideration in devising the lines to be taken by the new steelwork, advantage being taken of the duplication of certain timbers in the old work to apply parts of the steelwork in the midst of the original timber as in the case of the main collar beam, which is of two members. The double tracery standing upon the back of the great arch rib serves to hide most of the steelwork upon the lower principals, and the main steel collar reinforcement is contained, like a fitch plate, within the decayed double beams which together build up the original main collar of oak. The old purlins are being reinstated wherever sufficient sound timber remains, and are refixed upon a broad-flanged girder which acts as stiffener between truss and truss, as well as taking the weight of the common rafters and roof covering.

Beside the provision of a new steel truss the decayed portions of the old timbers are made good with sound new oak, both old and new wood being securely bolted to the steelwork. The lower and upper principal rafters are clothed with steel plates on both their north and south faces, the new steelwork being connected with gusset plates and bolts into a continuous member, from the wall tops to the apex of the roof. The two posts of each steel principal rafter are connected with steel bolts through the old oak, and at the important points of juncture with other members of the steelwork large pins of steel  $5\frac{1}{2}$  inches in diameter are used to unite the two halves of the steel principal rafter and the third member, the rod or collar as the case may be.

Special care is exercised in obtaining a perfectly central bearing on the two sides of the principal rafter, and a special apparatus is used for broaching the holes to exact size and alignment. The hole in one steel plate is bored to the correct size before fixing and a smaller hole approximately opposite to it in the other. A steel cutter-bar is then threaded through both holes and held in position with circular steel collars and brackets. A lever, with ratchet arrangement, is used to rotate the cutter-bar, and a screw union on its end forces it steadily forward as the metal is eaten away. When the hole is completed the pin is led into it with a polished steel thimble over its screw thread; and such a perfect fit is obtained that heavy sledging or the use of an hydraulic jack is necessary to force the pin into position.

To ensure the proper co-operation between the old and new work after erection each complete steel truss is tightened up by the revolution of screw couplings upon its inclined steel tie rods, until the feet of the principal rafters stand slightly nearer together than the positions marked for their reception upon the bed plates already concreted into the wall tops. While still screwed up to this calculated pitch, the feet of the principal rafters are forced apart by means of hydraulic jacks until they coincide with the bolting down positions, and that operation is then performed



while the feet of the principals are held apart. The precise object of this screwing and stretching is to anticipate and prepare for the deflection that would otherwise expand the feet of the steel truss when it receives its full load of rafters and roof covering. If this expansion took place after the fixing of the truss damage to the eight-hundred-year-old walls might result, but the adjustment above described sets off the elasticity of the truss against the possible deflection, and avoids damage to the walls.

A primary consideration of the whole system of repair lay in the means to be employed to exterminate the wood worm, whose ravages had caused by far the greatest portion of the decay and distortion in the roof. This insect, identified by Dr. Gahan, of South Kensington Museum, as *Xestobium Tesselatum*, the "Death Watch," burrows during its larval stage in the interior of the oak and is commonly known as "wood worm," a white slightly curved grub. The eggs from which the grubs are hatched are laid in cracks and joints of the timber and this has caused some of the principal bearing joints of the roof to be most severely affected. The grub's habit of working in the dark and only emerging through to the outside of the timber when completely transformed into the perfect beetle has led to the preservation of a sound looking outer crust on beams whose interior is completely eaten away.

In devising a suitable insecticide several limiting conditions were first laid down, which excluded the use of reagents that were highly inflammable or so poisonous as to involve serious risk to the workmen.

The characteristic orange-brown colour of the old timber was carefully preserved by the exclusion of any substance that had the effect of changing or darkening its hue. After considerable experiment, both in the laboratory and in Westminster Hall, a prescription by Dr. Maxwell Lefroy, of the Imperial College of Science, South Kensington, was adopted. In preparation for spraying, the timber is first carefully cleaned and freed from dust by means of an air blast and then all surfaces are given two thorough soakings with the solution, applied through a hose and nozzle held close to the wood. The liquid is held in a cylindrical container and is forced through the hole under an air pressure of from 20 to 60 lbs.

The conservation of the original timber has been the guiding principle throughout the works, and all means used have been devised to this end. The new steelwork is planned in such a manner as to reduce to a minimum any cutting of the old timber and involves the use of far less new oak than would have been the case had the repair been carried out by splicing on new timber alone—supposing this to have been a feasible method of meeting the structural conditions of the problem. The only parts of the roof not actually decayed that have been removed were modern insertions, structurally inefficient or dangerous.

The most careful measured drawings are prepared of every part of the roof as treated—all decay is recorded with the most elaborate care and all historical details preserved, recorded and opened up where possible.

Owing to the world-wide interest taken in the work begun in 1912 at Westminster Hall and still in progress, it is a matter of great public importance that all the measured and coloured drawings prepared for the work and during the period that has since elapsed should be published, in addition to the Blue Book already issued. They would form a precise record of the recent dangerous condition of the roof, of the infinite pains now being taken to preserve it for many generations to come and of the earlier masonry and decoration which has been discovered. Their publication would also be a well-deserved tribute to the courage of those who enabled the work to be done and authorised the absolutely necessary expenditure, and to Sir Frank Baines, and all who are assisting him, to maintain a priceless national heirloom with practically no interference with the original beauty of its design.

A. O. COLLARD [F.],

*Joint Hon. Sec. Science Standing Committee.*

## FACTORY BUILDING AND THE WELFARE OF THE WORKER.

By W. S. PURCHON, M.A. [A.], Lecturer in Architecture at the University of Sheffield.

I had hoped to be present at the reading of Mr. Buckland's paper on the above subject, but this proving impossible I have read the advance copy with great interest and venture to submit the following notes in the hope that they may in some small measure supplement the discussion.

We must, I think, be very careful of generalisations, for while in some matters these are distinctly valuable, in others they are rendered valueless by the great differences in the needs of various industries. As an example I would instance the question of the number of floors, for while in some cases the single floor is not merely best, but the only possible scheme, it will be found that in lighter industries buildings of two or more stories are quite satisfactory, and the area of land covered is often an important consideration.

The engineer is certainly wedded to the north light roof, so much so that a south light roof which I deliberately placed over a canteen designed to seat some 2,000 workers was quite startling in its effect on some members of our brother profession. The roof trusses in that building are perhaps of some little interest, being constructed of wood, but designed exactly on the lines of the usual trussed rafter type of steel roof. The engineer also loves the open roof and is sometimes convinced only with difficulty that in many classes of building the horizontal ceiling has great advantages.

A few architects may possibly still consider the question of drains rather sordid. The fact that some of us adopted this attitude of mind towards this and other more or less scientific matters which are clearly within our province, did the profession great harm before and during the War, but I think we are rapidly adopting sounder views. Anyhow, I am glad Mr. Buckland raises the point, and I cheerfully emphasise it by giving some actual figures. In one factory in which I was responsible for drains and other matters, the roof water was carried away by two 9-in. drains laid at a fall of 1 in 140. One of these drains took the rain water from about 189,000 sq. ft. of roof surface, and the only trouble which arose in connection with these drains was due to the main sewer in the road being incapable of dealing with a sudden storm. A 6-in. drain falling 1 in 64 dealt satisfactorily with 131 w.c.'s, about 124 ft. of urinal, 350 lavatory sprays, a number of single lavatories, sinks, etc.

The getting in and out of large numbers of workers, the recording of their times, and the provision of proper cloakroom accommodation, form, as Mr. Buckland suggests, a particularly interesting study. The placing of the clocks is an important and somewhat difficult matter. Arranging them near the work reduces congestion and so allows of more rapid clocking. This method also makes for easier supervision of the clocking and allows of the checking of time on any particular operation, and I am inclined to prefer these arguments to that advanced by Mr. Buckland.

Metal lockers with expanded metal doors though expensive appear to be the best method of dealing with clothes, etc., and while the cloakroom should be near the sanitary accommodation, it should certainly be in a separate apartment so that it can be kept locked except when the workers are starting or leaving work. In certain special cases the method of handing in clothes to an attendant as in the cloakroom of a hotel has had to be adopted.

Another difficulty is that of rapidly paying large numbers of workers. In one factory I arranged a series of entrances and exits on the boundary of the works with small pay offices between, and this system—which included the use of turnstiles—proved very satisfactory.

As Mr. Buckland says, the tendency has been to underheat our workshops. This is mainly due to the large amount of exposed roof surface, resulting in a problem almost on the lines of that of heating a field!

In some cases the difficulty of flooring has been got over by the use of asphalt. This is cleaner than concrete and less cold, but is, of course, expensive and not always suitable. One difficulty found with concrete is its liability to "dust," a subject worthy of further investigation.

The ordinary wash-basin seems much less suitable for general works purposes than the trough, but the latter must have no plugs to the outlets. In heating schemes for factories the difficulty is that of getting

enough. In hot water supplies the difficulty is even greater, and as hot water should be provided care should be taken that it is not wasted. This amounts to the provision of some form of tap which cannot be left running and which does not need to be held down by the hand. I have experimented with foot-action and knee-action taps for works purposes, but the most suitable form that I have met is one in which pressure of the hand, before starting to wash, releases a measured amount of water through a spray. This form is not perfect yet, but I think it is on the right line of development. One great advantage which it presents is a neat and simple form which cannot easily be damaged.

With Mr. Buckland I should certainly like to see a more general provision of baths. It is often urged in connection with housing schemes that the baths should be on the ground floor because the worker comes home dirty. The problem should, however, be tackled nearer the source, so that the worker could come home clean.

I believe there will presently be a big development in the provision of works' canteens. Houses are being provided farther from the works, and the old habit of eating sandwiches or "warmed-up" dinners must give way to something better. A well-conducted works' canteen has great possibilities for good in raising, among other things, the standard of food preparation among workers. If in any part of welfare work it is dangerous to generalise, it is certainly particularly so in the case of canteens. There is still great need for scientific investigation of the subject, and the experience already gained should be brought together and co-ordinated. I have discussed the matter with many of the "experts." Beyond the fact that each of them was convinced that he knew more about the subject than the others, I found they rarely agreed.

They generally told me, however, that the kitchens I proposed were too large, and they usually asked for the hot closets to be placed under the counters. As a matter of fact the tendency is to make kitchens too cramped—they should be as large and as light and airy as circumstances permit, and it will generally be found that the best place for the hot closet is behind, and not under, the counter. I placed the hot closet behind the counter in one very large canteen built in the early days of the War, and was asked to move it. It was not moved and its position was found to be so satisfactory after it had been given a fair trial that those using it protested strongly against further proposals to place it under the counter. The usual arrangement for quick service involves the use of the single entrance near the service counter, but I have found in very large rooms a number of entrances opposite a very long counter to answer better. I think, however, on the whole that it is best to divide the canteen, if possible, into rooms seating not more than say 350 each. The counter, I think, is best arranged with not fewer than four lifting windows, one

for sweets, one for savouries, one for tea, coffee, etc., and the fourth for "sundries." In rooms seating as many as 300 there should be additional service windows, so that the different kinds of meats, etc., can be served from separate windows. The "shop" or "sundries" side of the canteen is very important, as it is a means of supplying the workers with many things they need, and at the same time it helps to make the canteen financially sound. In one canteen with which I am familiar the workers order each day the meal they will require the next day and the food so ordered is brought to them at the tables. This method is only likely to be successful with highly skilled workers, but in the right hands, I believe, it can be worked very satisfactorily indeed. In the stores for a large canteen, or in central stores for a number of canteens, cold storage rooms can be included with considerable advantage.

With reference to cooking equipment, I have found that a combination of steam, electricity and gas gives the best results. Gas is not yet superseded by electricity for certain operations, while for some purposes steam is easily the best cooking medium. Steam is also required in connection with the washing-up apparatus, the hot-closets and for the provision of hot water. Particular care should be taken to provide an adequate supply of the latter. In canteens for 200 or more persons, a mechanical dish-washer should be provided and a mechanical potato peeler of the carborundum lined type will be found a great help. A knife cleaning apparatus was once a necessity, but the introduction of stainless steel cutlery has altered that. It will be found economical to obtain the best cooking and washing-up apparatus; in some temporary canteens, cheap equipment bought by optimists had to be renewed before the end of the War. The smaller equipment such as cutlery, etc., should also be of good quality. With reference to the question of providing facilities for warming-up food, I would urge that this should not be done if it can possibly be avoided. The new canteen should stand for the newer and better methods. In existing factories there are often existing facilities for "warming-up" and I suggest that these be allowed to continue their operations until the demand for them gradually vanishes—as it soon will when the genuine canteen starts—but the old method of warming-up food should not be encouraged by dealing with it in the new building.

With regard to the provision of ambulance facilities, I am strongly inclined to question the advantage of the "First Aid" boxes. It is extremely important that proper attention be given even to minor injuries, and this can only be achieved in an ambulance room with a properly trained attendant. I therefore suggest that in factories which are so large that a central ambulance room is too distant from parts of the establishment, smaller ambulance rooms be constructed to supplement the main one.

The subject of welfare work in factories is a big one,

one of steadily increasing importance and one which will amply repay our most careful study. It should be approached in a scientific spirit and with as full knowledge as possible of the new conditions which are arising in our industries. If architects will tackle the matter in this way there is clearly a big field of operations open to them.

## REVIEWS.

### EGYPT IN WAR TIME.

*Through Egypt in War Time.* By Martin S. Briggs, F.R.I.B.A., author of "In the Heel of Italy," "Baroque Architecture," etc. With Illustrations by the Author. 8s. Lond. 1919. 21s. net. [T. Fisher Unwin, Adelphi Terrace, London.]

In these days, when sumptuous-looking books of travel are compiled from a collection of photographs and a few commonplace observations noted during a compressed holiday abroad, it is a welcome change to come across such a book as *Through Egypt in War Time*. Captain Martin S. Briggs, the author, has undertaken his task with much insight and discernment, and has produced a work which possesses outstanding merits. One of these is revealed in the consideration he has shown towards the general public in not obscuring his descriptive accounts of buildings with technicalities. This restraint is, one fears, not commonly met with in members of the architectural profession, and will be gratefully acknowledged by lay readers, among whom there will doubtless be large numbers of military men who, like Captain Briggs, have served the Allied cause in Egypt during the war.

It must not be inferred, however, that professional men will find any inadequacy of treatment as regards the architectural references. Indeed, nothing has so struck the present reviewer, who has lived in the country for the past ten years, as the accuracy and completeness of the information given in the text concerning its temples, mosques and domestic buildings. The author's military duties took him to many parts of Egypt which are merely names—even to those long resident in the country—and the glimpses he affords us of these almost unknown coast towns and oases are perhaps the most fascinating features in the book.

Captain Briggs, in his preface, tells us that the purpose he had in view was "to picture Egypt as the soldier has seen it, from Sollum on the borders of Tripoli to Gaza in Palestine, and from the Mediterranean to the First Cataract at Assuan." And in the attainment of his object the author has, by his facile pen, keen observation, shrewd judgment and sense of humour, drawn a picture of his travels and the things he has seen which is at once a faithful reflection of realities and a most valuable record.

Among the many pen drawings by Captain Briggs which are included in the sixty-seven illustrations from brush and camera distributed throughout the book one of the best is that of the exterior of the tomb

mosque of Barkukiyeh, near Cairo. Another drawing (reproduced from the *Burlington Magazine*) represents the remarkable mosaic pavement discovered at Shellal by an Australian officer in 1917. In addition, there are two maps, a coloured frontispiece, and a complete index, which latter will be found indispensable when, after perusal, the work takes its place on the shelf as a book of reference.

FREDERICK CHATTERTON [F.].

## CORRESPONDENCE.

### Reconstruction of the R.I.B.A.

12, Lingfield Road, Wimbledon, 1st July 1919.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—Before the war I always regarded the R.I.B.A. as the *doyen* of Architectural Societies and as giving light and leading to the whole architectural profession, but when I review the achievements of the Institute after three years' absence in France I must confess to being disappointed. In spite of the magnificent work performed by the President and some members of the Council and also by the permanent staff, the results are unsatisfactory. For example, the Council and the various committees have been ill attended, to the detriment of their respective functions.

Secondly, the finances of the Institute are not in a flourishing condition. The annual subscriptions have been allowed to get nearly £4,000 in arrears. This has necessitated cheeseparing economies, which have appreciably diminished the prestige of the Institute.

Thirdly, the efforts made by the Council, in order to safeguard the interests of members who have been serving abroad, have not solved the problem of those who have now come back only to find starvation staring them in the face. At the same time, the distribution of the work in connection with the National Housing Scheme, which might have proved a solution, has unfairly favoured the man already on the spot.

Fourthly, the promise made to students whose studies have been interfered with by the war has since been qualified.

My purpose, however, is not to frame an indictment against the Institute, but to try and point out the reasons for these shortcomings and suggest a remedy.

In the first place, it is useless for the Institute to initiate any strong constructive policy until practically the whole of the architectural profession are enrolled as members; and, as has been proved by previous attempts, half measures in this respect are worse than useless. It is therefore necessary to immediately elect as Associates (provided of course they consent to join) all Licentiates, the whole of the Society of Architects, the bulk of the Allied Societies and the Architectural Association. Students, of course, would have to pass the examinations prior to election unless their studies have been seriously interfered with by serving in the war.

The Allied Societies would continue to exist as local branches of the Institute and, to avoid paying a double subscription, the subscription to the Institute might be commuted to the extent of the amount members pay to the local Society.

The idea that an Associate by examination is a better architect, or is in any way benefited by the examination, is a complete myth under present circumstances. Such an examination is meaningless while there are so many eminent architects who have never passed it, and it can only become a criterion of professional ability when no one can practise architecture without the Institute's diploma.

The big thing, therefore, is to consolidate the profession, much as the medical profession is consolidated, so that none but properly qualified architects can practise architecture.

When all architects are enrolled the Institute will have an adequate income and will be able to provide itself with a proper building. This building should be a place not only for the exercise of the more technical functions of the Institute, but also a place where members can meet informally and discuss in ease and comfort the current ideas of the day.

The social side of the Institute has been entirely neglected, to the great loss of the profession, and to meet this there should be a club attached to the Institute, carrying an additional subscription, with reading rooms, writing rooms, dining rooms, bedrooms for country members, etc. The Library should have a smoking room attached with comfortable chairs.

As regards the technical side of the Institute's work, the committees should be real committees and not only on paper, and members elected should be paid a fee for each attendance.

The Bill for closing the profession should be proceeded with as soon as all practising architects are enrolled.

Bureaus should be established to deal with the question of finding employment for architects abroad, for assisting architects who are short of work or in financial difficulties, for arranging partnerships, for the appointment of architects to public offices, etc.

These and many other reforms are to-day pressing needs if architecture is to remain a profession. I appeal, therefore, to all architects, at whatever sacrifice to themselves, to sink all their private objections, and work for the unity of the profession in one Institute.

What finer War Memorial could there be than this!—I am, Sir, yours faithfully,

RICHARD M. F. HUDDART [A.].

A New Shilling Monthly entitled "*Our Homes and Gardens*" has just made its appearance from the publishing house of Messrs. George Newnes, Ltd. Tastefully produced on good paper, with excellently written and well illustrated articles, the new venture caters apparently for people of all ranks, but particularly for those of modest means with refined tastes. Some very practical suggestions for transforming the commonplace into things of beauty are given in the current issue.



## Building Contracts.

Manchester.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—Mr. Joseph's remarks *re written evidence* [pp. 184-85] are of great importance, and, as it may be helpful to some brother-architect, I will outline my procedure.

The contract was drawn up by a solicitor and two counsel about 1888, and hundreds of thousands of pounds have been expended under its conditions without any friction since. It is a "lump sum" contract, and if quantities are not necessary the clause relating to them is struck out and initialed by the parties. The quantities are not made part of the contract, but I have once or twice varied that clause.

"Prime Cost" is defined, and no "additional works" or "omissions" are to be considered unless they have been ordered by the architect on one of his *printed numbered forms*. No letter will do. After the "contingency sum" (say £50 on a £2,000 job) has been expended this form has to be countersigned by "the owner" or client. I get each variation priced at the time, and my forms state how much for each item—whether omission or addition.

These forms have to be returned at the end of the job to the architect for final adjustment of account. They are checked by the forms in the bound book of counterfoils and then passed to the quantity surveyor if necessary. Result, no discussions at the end of the job about "extras" either with client or builder—each knows where he is.

Certificates (also in bound books) show clearly the whole state (financial) of the job at any given date.

I would warn all young architects to include in the contract a weekly return. This should be printed, numbered for each job, and supplied to the contractor by the architect for transmission to the architect so as to arrive at his chambers by the first post every Monday morning. It should give space for information *re numbers of men employed (by trades), materials brought on the ground, drawings received, ditto wanted, visitors, state of the weather, reasons for delay*, and it should be signed by the builder or foreman or clerk-of-the-works, and dated. This epitomises progress and saves much letter-writing and letter-reading on both sides. These sheets, of course, should be acted on immediately, and, when done, filed chronologically. I hand each man in charge of the routine of my job the sheet each Monday, and instruct him verbally.

Lastly, a wise architect instructs his client *beforehand* as to fees *re self*, quantity surveyor, and clerk-of-the-works' salary (this last for jobs over £2,000).—Yours faithfully,

PHILIP A. ROBSON.

P.S.—I should, perhaps, add that, under my contract, the architect is sole arbitrator until such time as a disagreement of a serious nature arises, then the President of the R.I.B.A. for the time being is to be requested to nominate an arbitrator, whose decision shall be final. But such a case has not arisen.—P. A. R.

## The Future of the Profession.

54 Upton Road, Slough, 18th June 1919.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—The insistency with which our future and that of the art we follow is being questioned should lead us to consider our past, the society in which we live and our place within it. The war has only accelerated the pace at which the various interests which held us in their grip in pre-war days are now threatening to modify our position in many

respects and annihilate it in others. Human conditions being always in a state of flux, advantages are secured by certain groups over others in proportion to their economic importance and numerical strength. The architect has always been considered a luxury—a fact which is borne out by a recent statement at the Institute to the effect that 95 per cent. of the housing of the poorer classes has not been the work of architects. The reason why architects cannot enforce a doubling of their present fees is to be found in the fact that they lack economic importance and are numerically small in number. We lack economic importance not because our work is such, but because our claims are undermined by the engineer, the estate agent and the speculative builder, favoured, of course, by the insufficient appreciation of good design by the public. Whilst clients may have recourse to others, they may ask the question, "Why can't you reduce your fees?"—a request which is not demanded of the solicitor, the doctor, the miner or the bricklayer. Had we been fortunate enough to reverse the picture, we should have the public talking of the tyranny of architects in exactly the same tone and for very similar reasons to those employed by Mr. Woodward in speaking of trade unions. We are a small body, and our outlook is very limited in regard to our business possibilities. We lack collective interest and our vision is split in twain by technique and etiquette instead of uniting a workable compromise between them. Not many years ago an office dealt in all the departments of practical building; then the inevitable specialisation common to all enterprise began to make itself felt. The quantity surveyor extended his sphere, the surveyor pure and simple became stronger, the specialists in wood, plaster and iron made themselves too evident, and the architect was left with the management of these contributors, who often chased him from a province he had considered peculiarly his own—Design. Side by side with this disintegration of private practice, a synthesis was growing in the enlarged scope of the work done by corporations, councils and government departments, and the administration of building bye-laws, which became more and more stringent on account of the thoughtlessness and self-interest of the builders entering largely into the question. These were steadily absorbing the younger blood, which found conditions more satisfactory in point of permanence, salary and opportunities. In addition, many furnishing firms, breweries, and other public companies founded architectural departments. The war has hastened progress on these lines. Five years of suppression of private practice has virtually suppressed the private practitioner. The great bulk of future building will be undertaken by public bodies and Government departments, and building companies and corporations will arise *and are arising* to compete with a steadily dwindling minority of private practitioners for the rest. The part of the architect on the corporate bodies will be that of manager and designer, and private practice will be relegated to a few of good social position or charitably employed by interested friends.

The prejudices existing in our midst are too strong to allow us to combine in mass-formation with those who are stealing our place, and consequently the only remaining position we can occupy, to further the cause of architecture, is that of the much maligned official architect or that of his assistant. The practitioner of good social standing will survive for a time in a sphere where commissions may be obtained, but never at the rate or of the amount known in pre-war times.—Yours sincerely,

ERNEST J. DIXON [A.].

## SAMUEL PERKINS PICK, F.S.A.,

*Past Vice-President, R.I.B.A.*

By the death of Samuel Perkins Pick, the architectural profession has lost a most capable member, who not only did fine work himself, but was a source of inspiration to all who came in contact with his sane and fertile mind. Mr. Pick, who was born at Kettering in 1859 and educated at Kibworth Grammar School, went to Leicester as a youth to be articled to Mr. Frank Smith, an architect of that town. From 1888, when he joined Mr. J. B. Everard, he was constantly engaged in important work, and many buildings, especially in the neighbourhood of Leicester, bear witness to his practical genius and imaginative depth. On Mr. Everard's retirement a few years ago, Mr. Pick, as head of the firm of Pick, Everard & Keay, became the acknowledged leader of his profession in Leicestershire.

Early this year, on the nomination of the R.I.B.A., he went to Cologne as a member of the Overseas Civilian Advisory Board, and while in Germany gave counsel to about 2,000 officers, whose careers had been interrupted by military service, on the prospects of architecture in England. The strain of his duties, and of travelling in exceptionally cold weather, reduced Mr. Pick's vitality and intensified symptoms which had given anxiety to his friends since November. Soon after his return it became evident that he was in a grave condition, and, in spite of all that skill and care could do, he died at his house in Leicester on May 23rd.\*

The important undertakings with which Mr. Pick was associated include the Leicester portion of the Derwent Valley Water Scheme; the Leicester Royal Infirmary; Parr's Bank at Leicester; the Leicester School of Art and Technical School; the Leicester Borough Asylum; the Leicestershire County Asylum; the 5th Northern General Hospital (Military) at Leicester; the churches of St. Philip and of St. Michael and All Angels, Leicester; the Coppice Hospital, Nottingham; alterations and additions to Addenbrooke's Hospital, Cambridge; the Royal Hampshire County Hospital at Winchester. Many excellent houses and honest buildings stand to his credit, as well as a number of war memorials and other monuments. The homely elegance of the household furniture he designed shows how fully he entered into the spirit of eighteenth century craftsmanship, while his talent for sketching may be seen in the illustrations he did for C. Wise's "Rockingham Castle and the Watsons."

In his architectural work Mr. Pick maintained a consistently high level. Common sense, familiarity

with the best traditions, and avoidance of irrelevant show, gave an air of quality and intrinsic rightness to all his designs. He was aware that an appropriate beauty will come into all good work done in the proper spirit, and such ornament as he employed sprang from his own sincere feeling and the purpose inherent in his plan. He was invariably original; but his work never gives the impression of mere novelty, and any rash departure from sane precedent was foreign to his conservative nature. His respect was for the spirit of the old tradition; he never aimed at the pedantic reproduction of obsolete externals. One of his last sayings, by which he may well be remembered, was: "The older I grow, the more I value reticence." But, though he never sought an imposing effect, his reticence was of the kind which implies reserve of power.

Mr. Pick's most impressive achievement is Parr's Bank at Leicester. Based on a sober appreciation of Renaissance architecture, this dignified building has a stateliness and classic repose that are wholly satisfying. There is no lavish ornamentation, but chaste enrichments are judiciously introduced just where they are required for completeness of effect, and every detail is strictly subordinated to the unity of conception which marks the whole design. Near the chief entrance are groups of sculptural figures by Mr. Allen of Liverpool, which enhance the general beauty and illustrate Mr. Pick's willingness to provide scope for an artistic colleague whenever this could properly be done. The interior of the bank is equally happy from the æsthetic point of view, and is admirably contrived to facilitate the transaction of business. It was Mr. Pick's practice, when engaged in hospital work, to inspect representative institutions, and hold long consultations with the best doctors, that he might know exactly what was required for efficiency. By this painstaking and laudable method he acquired a considerable reputation. The same forethought is shown in the Leicester School of Art, where very complex needs have been satisfied in a plan of remarkable simplicity. This building is notable for excellent lighting, the convenience of its rooms, and the orderly arrangement of the whole plan. Should an extension be called for, it has been so designed that, by the addition of three wings enclosing a quadrangle, it can be developed to four times its present size. Externally it has a dignified and spacious appearance not wholly accounted for by its actual dimensions. The same combination of good design, quiet originality and practical convenience is to be found in Mr. Pick's private houses and industrial buildings, and all who live or work in these will testify to their suitability, right feeling, and economy in management.

Mr. Pick was entirely free from professional jealousy. Mindful of his debt to others, he was always ready to help any sincere architect, and his kindness to the younger men will be especially remembered. The fine quality of his work, and his single-minded zeal in all that might help the profession, led to his becoming Vice-President of the R.I.B.A.

\*Mr. Pick's illness, which was too obscure for diagnosis in the early stages, must have begun its fatal course by the autumn of last year, long before he went to Cologne. Though he suffered while in Germany, he was greatly interested by all he saw and heard there, and I do not think we need be sorry he went.

in 1904, and he was twice President of the Leicester and Leicestershire Architectural Society. He gave valuable evidence before the Select Commission appointed by Parliament to inquire into the operation of local by-laws. This was a subject on which he felt strongly, for he had experienced the hampering effect of inflexible regulations of this class.

Few men had a more intimate knowledge of mediæval churches, and none could have a deeper sense of all they stand for as monuments of time and reminders of eternity. As an archaeologist Mr. Pick was delightful, and he will be sadly missed at the gatherings of the Leicestershire Archaeological Society, where his humour, knowledge and artistic insight illuminated many a discussion. The papers he read at these meetings were always valuable and characteristic. The last, on "Swythland Slate Headstones," was a critical and poetic commendation of an unappreciated Leicestershire art which flourished in the eighteenth century. It was good to be with him in the churchyards around Leicester and to see how moved he was by the grace and quaintness of the finer examples of this bygone craft. He loved to study them in their homely native setting, for, a countryman at heart, the parish church, the manor house, the cheerful inn and the ancient windings of a village street were expressive of all he held most dear. He felt it all—the romance, the piety, the laughter and the tears; and the art and literature of this ancient, familiar England touched the deepest chords in his loyal, tender nature. It was this profound sense of the meaning of what time has spared of the old tradition that made him such an opponent of light-minded and injudicious "restoration." As an artist, and also as a man with true historical feeling, he saw the utter futility of all attempts to recreate the past. The Society for the Protection of Ancient Buildings, with its wise policy of conservation by honest repair, had no more ardent supporter than our old friend.

It was Mr. Pick's sympathetic appreciation of the glories of the past which made him such a convinced advocate of sound instruction in art and craftsmanship, and what the country owes to his discernment and influence can never be computed. At the Leicester School of Art his memory will be held in affectionate esteem, and while his spirit continues to be a living force in that home of sound doctrine, Leicester will have one defence against vulgarity and materialism. Mr. Pick was an enthusiastic Mason, and held high office in that mysterious craft. A former President of the Leicester Literary and Philosophical Society, and member of the Museum and Libraries Committee at Leicester, he did much to promote a right appreciation of art and literature, and to encourage the study of local history. In many other ways he served his generation faithfully and well.

The ashes of this genial and gifted man were buried in Leicester Cemetery on the Wednesday after his

death. At the service in St. Peter's Church, which was filled with old friends and colleagues who knew his sterling worth, Canon Elliott said that it was a matter for profound thankfulness that such a man as Samuel Perkins Pick, who had invariably devoted his great powers to the highest and most unselfish ends, had dwelt among us and left so sweet a memory behind.

Leicester.

S. H. SKILLINGTON.



9 CONDUIT STREET, LONDON, W., 19th July 1919.

## CHRONICLE.

The R.I.B.A. Record of Honour: Sixty-third List.

### *Fallen in the War.*

SHIELD, JAMES EDWARD COLEMAN [A.]. Killed in action in 1918.

### *Military Honours.*

HAMMOND, Lt.-Col. FREDERIC SNOWDEN, Essex Regt. [Licentiate]. Mentioned twice in Despatches (Gallipoli and Palestine) and awarded the D.S.O. in connection with the capture of Gaza.

DUNCANNON, Lieut. E. FORD, R.N.V.R. [Licentiate]. Awarded the Distinguished Service Cross.

As Commander of H.M. Motor Launch 13, Lieut. Duncannon was responsible for the destruction of many enemy mines when searching mined areas at low water.

BRIDGES, Lt.-Col. EDWARD J., S.R.E.S. [F.]. Awarded the O.B.E. (Military Division).

WEBSTER, Major F. COUTTS, R.A.O.C. [A.]. Awarded the O.B.E. (Military Division) for services as D.A.D.O.S., 11th Division, in France.

KEYS, Major PERCY HUBERT, M.C. [A.]. Mentioned in Despatches, Dec. 1917; awarded Military Cross, Jan. 1918; Bar to Military Cross, Sept. 1918; French Croix de Guerre, Oct. 1918; Distinguished Service Order, June 1919.

Maj.-Gen. Sydney Lawford, commanding 41st Division, records his appreciation of Major Keys' great gallantry and most exceptional devotion to duty at all times during the operations between 28th Sept. and 11th Nov. 1918. His fine example and handling of large working parties resulted in a most successful conclusion to the operations.

Major Keys was twice wounded in action. He has now been demobilised and resumed duties as an architect at H.M. Office of Works.

## Peace Greetings.

The following messages were cabled from the Institute on the 14th July:—

*Girault, Membre de l'Institut, 36 Avenue Henry Martin, Paris,—*

*Veillez bien faire part du suivant à qui de droit: Aux confrères français, salut! L'Institut Royal des Architectes britanniques vous envoie ses félicitations cordiales et confraternelles pour la glorieuse Paix, avec tous ses vœux pour l'avenir de l'art bien-aimé. Vive la France!*

*SIMPSON, Président, Quatorze Juillet.*

*President American Institute of Architects, The Octagon, Washington, D.C.—*

*The Royal Institute of British Architects salutes all American Architects and sends them brotherly greetings and congratulations on conclusion of victorious Peace.—SIMPSON, President.*

M. Girault cabled the following reply:—

*Paris: le 15 Juillet 1919.*

*A Monsieur John W. Simpson,—*

*Mon cher confrère,—Je ne puis vous dire combien nous touche votre télégramme de félicitations. Oui, félicitons-nous les uns et les autres, en Angleterre comme en France, de cette paix si attendue qui va revivifier l'art et rendre plus étroite encore, plus affectueuse et plus chaude notre confraternité. Vive l'Angleterre!*

*GIRAULT,*

*Président l'Académie des Beaux-Arts.*

Greetings were also sent by the President on behalf of the R.I.B.A. to the Architectural Institutes of Scotland, Ireland, Canada, Australia, New Zealand, and South Africa. Among the replies received is the following:—

*President R.I.B.A., Conduit Street, London.*

*The Institute of Scottish Architects warmly reciprocates the brotherly greetings of the Royal Institute. Scottish architects send heartiest congratulations and good wishes on the appointment of their distinguished compatriot to the Presidency.—KELLY, President.*

## The Outgoing President and Hon. Secretary.

At the closing meeting of the Session on the 23rd June, following the presentation of the Royal Gold Medal, reference was made to the then approaching retirement of Mr. Hare and Mr. Dawber from their respective offices of President and Hon. Secretary.

Mr. PAUL WATERHOUSE [F.] said: On Gold Medal night it is usual for us to have exposed to view a portrait of the President. To-night, for several reasons perhaps connected with the war, the portrait is not forthcoming. On those occasions we admired the picture, congratulating a great painter on having produced such a good piece of work, and telling the President to his face how much nicer he looked than the picture. As I say, the picture is not here to-night,

but we can utter a few words about the President, if he does not mind. Mr. Hare has been our President during a time of great difficulty and anxiety. The President of this Institute has not only to be a first-class architect, he has also to be a good Chairman of Council and a good President as well. Those are three qualities very difficult to combine. There are many first-class architects who would not be first-rate Chairmen of Council, and there have been excellent Presidents who were bad Chairmen of Council, for the Council is a very awkward body to rule. We can say of our friend Mr. Hare that he has performed his task most admirably. The time has been a time of difficulty, and only those who are in his immediate *entourage* know how difficult the time has been. The tongues of the Institute have been let loose in an extraordinary degree. We know the tongue is an unruly member, and the flow of language has been awful. (Laughter.) But Mr. Hare has held us with a gentle hand, though when he is required to be so he can be firm. So that, in spite of this flood of speech, we have got something done in the Council. And he has always aided us in getting on with the business which had to be done. He has been an excellent friend to all of us. I do not wish to enlarge on all his good qualities—he would not like it—but I wish, in the name of this Institute, to thank him most heartily for the way in which he has carried through a very difficult duty in a very difficult time. And in speaking of our President I do not wish to forget our Honorary Secretary, Mr. Dawber. (Applause.) He is leaving his office, full of honour, to go upward—or, shall I say, sideways?—into the Vice-Presidency. I say sideways because, being a Vice-President, I know how much easier it is to be Vice-President than it is to be Honorary Secretary. He deserves the rest which comes from relinquishing that duty, and I think it is probable he will put more work into his new duties than some Vice-Presidents have done. Mr. Dawber, I feel, has conducted his work as Honorary Secretary with all the dignity which is demanded of a man in that position, and he has acted with invariable tact. And now I shall make myself unpopular with Mr. Northover for a moment. He has been spoken of once or twice in public here, but there is no harm in speaking of him again. Mr. Northover has, during this difficult time, worked with unparalleled industry. I feel that we cannot too often express our indebtedness to him for what he has done. It has sometimes seemed to me that Mr. Northover can do anything except lose his temper, but I know there is one other thing he can do. A few years ago, before the war, I was in an out-of-the-way village in Somersetshire and came across a man in a small inn there who looked remarkably like Mr. Northover. And the reason was that it was Mr. Northover. I asked him what he was doing there, and he told me, to my great surprise, that he was taking a holiday. So he can do that, and I hope he will do it again: I am sure he richly deserves to.

Mr. ARTHUR KEEN, *Hon. Secretary Elect*: Mr.





Capt. FRANCIS RENTON BARRY, *Associate*.  
5th (Reserve) East Surrey Regiment.  
Killed in action, Sept. 4th, 1918.



2nd Lieut. DAVID MILNE, *Associate*.  
Hunts Cyclist Battalion  
(attached 10th Essex Regiment).  
Killed in action, Sept. 23th, 1918.



Capt. PHILIP DENNIS BENNETT, *Associate*.  
5th Royal Warwickshire Regt.  
Died on Service.



Capt. W. N. J. MOSCROP, *M.C., Student*.  
5th Durham Light Infantry.  
Missing, presumed killed, May 27th, 1918.

Waterhouse has an extraordinary capacity for realising exactly the things which are appropriate to be said on such occasions as this, and in fact on all occasions; and he speaks of them in such a convincing way, with such picturesque figures and such well-chosen phrases, that very little is left for those who follow him. I can only re-echo what he has said, and I need not occupy much time in doing so. I agree with everything he said about Mr. Hare. When we elected him as our President it was without the smallest misgiving as to his qualifications for the position, or as to his ability to do all that was expected of him as President of the Institute. During the two years that he has occupied the Chair he has justified in the fullest measure the confidence shown in him by his election. (Applause.) I think he has been good in all respects, I mean not only in conducting meetings here, but also in handling the Council and in conducting deputations to Ministers and other important people and bodies. We have always had from him the same kindness and courtesy, tact and good temper. He has been firm in maintaining his own point and in insisting, in discussions, on the essential thing which was before the meeting; yet he has always shown the greatest tolerance and forbearance towards those who differed from him or who wished to bring forward matter which was not strictly relevant. I think we have been extremely fortunate in having had the services of a man of his capacity for two years. It is essential that the President of this Institute should be an architect of very good standing, having an important position in the profession, though it is difficult to know how such a man can find the time for all the duties which await him. But somehow Mr. Hare has found, or made, time, and I agree with Mr. Waterhouse that we owe him a great debt of gratitude for having served us so well. In speaking of Mr. Dawber I must be cautious, because it is my fate to succeed him in his office of Honorary Secretary, and the things one says have a way of coming home to roost later on. I quite agree, however, that Mr. Dawber has served us well and that our very cordial thanks are due to him for the time and attention and interest which he has given to the affairs of the Institute. I am very glad that Mr. Dawber has been included by Mr. Waterhouse in the vote of thanks which Mr. Waterhouse was good enough to propose to our President.

**THE PRESIDENT:** Before the meeting closes I feel I ought to say something in appreciation of the thanks which have been accorded, and for the kind expressions of Mr. Waterhouse and Mr. Keen. As far as I personally am concerned it has been a very great honour to me to hold the position I have held for two years, and it has been a very great pleasure. I have been a member of the Council of the Institute almost, I think, as long as any other member. Perhaps Mr. Waterhouse is a little my senior in membership. During the whole of that time I have always received such consideration and friendship from the members of the Council that it has been the greatest pleasure to

me to do whatever I could for the benefit of the Institute. I am afraid that, as Mr. Waterhouse has said, those two years have been a rather difficult time, and I, in common with the other members of the Council, have done our best in the interests of the Institute and of architecture. We have not always succeeded, but sometimes we have, and I fancy the profession is in a better condition than probably it was two or three years ago. It has always seemed to me that the questions which come before the Council of the Institute to consider and to decide on are more difficult and more troublesome than those which come before any other body. Perhaps my impression is due to the fact that I have no experience of the difficulties which beset other bodies. But the questions we have to decide always present great difficulties: there are two or three sides to them, and it is always open for us to make a mistake. We do make mistakes sometimes; but in most cases, I think, there is sufficient balance of common sense to lead us ultimately in the right direction—at all events I hope so. There is one point on which I think the Institute may congratulate itself, and that is on the gentleman who is to succeed me in this position. (Applause.) I feel quite sure, from the experience I have had of Mr. Simpson during the many years I have known him, that his sound judgment will be of the greatest value in guiding the destinies of the Institute during the coming session, when there remain so many difficult questions to be decided; and it is the greatest pleasure to me to hand over the jewel of office to Mr. Simpson and to wish him every success during his period of office. Of one thing I can assure him, and that he knows very well without my telling him, that he will have the greatest assistance and goodwill from every member of the Council. (Applause.)

**MR. E. GUY DAWBER:** I would like to thank Mr. Waterhouse and Mr. Arthur Keen very much for the kind things they have said as to the seven years I have occupied the position of Honorary Secretary of the Institute. Those years have been very pleasant to me, because, as Mr. Hare has said, we have always had a very sympathetic and helpful Council to work with. I feel that personally I have not done very much: perhaps I have been more ornamental than useful, and that the real work of the Institute—at any rate during the last three years—has been done by Mr. Northover. When I have been in a difficulty I have appealed to Mr. Northover, and he has invariably pulled me through. But it has been, and always will be, a source of great satisfaction that I have served under three very eminent architects—Sir Reginald Blomfield for the first two years, then for three years with Mr. Ernest Newton, and for the last two with Mr. Hare. Before that I had four years of office as Vice-President, and now I am turned—either up or down—into another four years as Vice-President. After that I suppose I shall be elected Hon. Secretary again. I wish for my successor, Mr. Arthur Keen, that he will have a very pleasant four years of office.

### The Recent Ballot for Associates.

The results of the ballot for the June election of Associates will be found in the report of the Scrutineers published in the Minutes of the Meeting held 16th June [pp. 223-24]. Under the Charter of 1837 the election of all classes of members was by ballot, one black ball to four white excluding from election. The By-laws framed under the Charter of 1887 changed the procedure to show of hands at a General Meeting, but provided for election by voting papers on the requisition of twelve members, of whom the majority must be Fellows. The right to requisition a ballot has been exercised some three or four times in the election of Fellows, but this is the first time that a ballot for Associates has been demanded. The reasons are given in the following letter to the Secretary signed by the requisitionists:—

"We the undersigned have requisitioned the Council of the R.I.B.A. that the voting for the whole of the 165 candidates for election as Associates published in the current number of the JOURNAL, and exempted from the Final Examination, should be by ballot of all the members of the Institute.

It is stated that the concession is based on service with H.M. Forces during the war, but it is known that in at least one instance\* this ground of exemption does not exist:

The dates of passing the Intermediate Examination, in the case of many of the candidates, show that there was ample time to prepare for the Final Examination before the outbreak of the war in 1914, or before the Military Service Acts of 1916-18 became operative.

We feel that the exemption concession is not in the interests of the Institute or of the candidates themselves, that it will seriously detract from the value of the qualification, and constitutes a grave injustice to the class of Associates, many of whom have served with H.M. Forces and have passed the Final Examination.

We are also of opinion that the objects of the Board of Architectural Education are largely vitiated by the special regulations of March 1918, which should now be reconsidered, and the concession discontinued."

### An Essential in Cottage Design.

*The Times* of the 1st July published the following letter from Mr. Hare, the letter bearing the date 30th June, his last day as President:—

SIR,—Amongst the many serious problems of the housing question and the discussions to which they give rise, there appears to be a great danger that one very important consideration may, in the majority of cases, be entirely lost sight of—namely, the necessity for a due regard to the aesthetic and architectural quality of the designs of the houses to be erected.

The face of the country from Land's End to John-o'-Groats is to be permanently stamped with the impress of the present age. Never has such a widespread scheme of building, concentrated into the shortest possible time, been in contemplation. It has been exhaustively discussed in all its practical aspects, both by those in authority and by many without any authority at all, but, in all this discus-

sion, little or nothing has been said as to the necessity for these buildings, which are to form such an important and universal feature of our suburbs and countryside, being pleasant to look upon and in harmony with the best traditions of English cottage building. I venture to suggest that this aspect of the question is as worthy of consideration as the more practical questions of sanitation, cubic space, etc. The one ministers to the physical and bodily health, the other to the mental and intellectual.

No country in the world is so rich as ours in examples of simple and picturesque cottages, establishing a tradition which it is criminal to ignore. Yet during the last fifty years or more the whole of our cottage building has been of a degraded and demoralising character, devoid of all beauty and marked by a squalid meanness which is a direct encouragement to dirt, disease and crime.

An opportunity now presents itself to pick up the threads of our lost tradition, and I would urge upon the controlling authorities that insistence should be made upon the proper consideration of the aesthetic side, and that this quality should be essential to approval; and upon local authorities the vital necessity of seeking the best technical advice, in order to secure that these houses may be not only healthy to live in and well constructed, but that they may have that simple and suitable architectural quality which is characteristic of the best periods of English cottage building.—Yours faithfully,

HENRY T. HARE, *President R.I.B.A.*

### Allied Societies and Housing Schemes.

The following letter has been addressed from the Institute to the Hon. Secretary of each of the Allied Societies:—

21st June 1919.

DEAR SIR,—In order that the architectural work in connection with the housing schemes in your district may be fairly divided among local architects, especially among those just demobilised or about to be demobilised, the Council of the Royal Institute suggest that your Society should approach the various Urban and Rural District Councils of your district offering to nominate architects for their housing work. The Council have reason to believe that the Local Authorities would welcome such an offer; it would relieve them of considerable trouble and responsibility, and would help to re-establish local architects whose practice has died down owing to the War. The authorities want architects near enough to their districts to enable the necessary supervision to be given. The architects to be employed should, of course, be posted up in the housing requirements laid down in the Tudor Walters' Report, the Local Government Board Housing Memorandum, the recently issued Local Government Board Manual on Housing Schemes and the Reports of the Women's Housing Sub-Committees.

The Council think it useful to bring to your notice a method of apportioning the work which has been decided upon at Manchester. The Manchester Corporation approached the Manchester Society of Architects asking them to take over the organisation of their housing schemes—about half a dozen to begin with—and the following are the main points of the agreement between them:—

Each scheme is to be placed under an architect as Chairman, who stands to the Corporation in the relationship of architect to client, and all business with the City Architect

\* It has to be explained that the applicant's name was inserted in error in the preliminary publication, and was withdrawn prior to nomination.—SECRETARY.

and Corporation Committee will be done through him. Under the Chairman are a number of architects proportionate to the number of houses to be erected under the particular scheme. The relationship of the Chairman and architects is that of Chairman and Committee. The Chairmen of the various Committees are members of a Committee known as the President's Committee, which meets weekly and deals with such matters as the general approval of the work being done on each scheme, the allocation of fees, and the cases of architects who prove to be incompetent. The President's Committee is to be paid for this work and need not necessarily do any designing. The fees and charges are on the basis of the Institute Scale. The Corporation deduct one-third of the fees, and for this they undertake the road work, the preparation of quantities, the clerk of works' supervision, certifying for payments and the settlement of accounts.

Further schemes are to be added as they come into operation. Already one other public body have approached the Manchester Society with a view to effecting a similar arrangement.

I may mention that this system of dividing up the work has the approval of the Local Government Board.  
—Yours faithfully,

G. NORTHOVE,  
*For Secretary.*

#### Leeds Housing Scheme.

Mr. W. CARBY HALL [F.], President of the Leeds and West Yorkshire Architectural Society, writes :

I have read with great interest the particulars given respecting the method employed by the Manchester Corporation in carrying out their housing schemes.

I think it will be of interest to your Council to know the method adopted by the Leeds Corporation. As the late Chairman of the Corporation Housing Committee, I may say the general lines adopted were decided upon last November.

The Leeds City Council approached the Leeds and West Yorkshire Architectural Society, and in the first instance asked the Society to nominate several architects for the position of Advisory Architect; from the list supplied an architect was appointed at a salary of £600 per year. His duties are to be responsible to and advise the Council on all matters relating to the housing schemes.

The Architectural Society was then asked by the Council to send in a list of qualified architects for carrying out the work; 21 were selected and the work is now in progress.

From this list a panel of six architects were appointed to assist the Advisory Architect in arranging the numerous details of the schemes. The architects are responsible to the Advisory Architect, who in turn is responsible to the Housing Committee of the Leeds Corporation.

The whole of the schemes are treated as one housing scheme and the remuneration is based upon the Royal Institute scale.

The laying out of the sites, the road works, and the clerks of works' salaries are paid by the Corporation and no deduction is made from the Royal Institute scale of fees.

The whole of the work (4,000 houses) will be apportioned amongst practising architects in the City of Leeds. Plans for 2,000 houses are now in course of preparation, and this portion of the work has been distributed between the 21 architects.

#### Central Consultative Board for Housing in the London Area.

With a view to assisting County, Municipal and Local Authorities of the London area in the selection of architects for their housing schemes, the Council of the Royal Institute have appointed a Central Consultative Board for the nomination of candidates qualified to undertake such work. The Board consists of the following members: Mr. John W. Simpson (President), Mr. Henry T. Hare, Mr. Wm. Dunn, Mr. H. V. Lanchester, Professor Patrick Abercrombie, Mr. Courtenay M. Crickmer, Mr. A. W. S. Cross, Mr. E. Guy Dawber, Mr. H. D. Searles-Wood, Mr. W. A. Harvey, Professor S. D. Adshead, and Mr. W. E. Riley. The Board is prepared to nominate architects for employment on housing schemes, and are compiling a register, confined in the first instance to Members and Licentiates of the R.I.B.A. who have served in His Majesty's Forces during the war, from which nominations and appointments will be made. A large number of names have already been received, and important Local Authorities have asked for the services of the Board. Members and Licentiates who wish to have their names added to the register should write to the Secretary R.I.B.A., giving particulars of their war service and of any special experience that they may have had of housing work in the London area.

#### Panel of Architects.

Mr. Henry E. Farmer [F.], Housing Commissioner for Region E (Staffordshire, Shropshire, Worcestershire and Herefordshire), writes :—

One of the most frequent causes of delay in starting the housing schemes has been the reluctance to employ or the inability to decide upon one architect. Competitions take much time, and the results are not altogether satisfactory, inasmuch as loss of time again occurs from amendment to the premised drawings.

The main enquiries made by Urban and Rural Councils as to the employment by them of architects with experience in the design and execution of the lay-out of estates and the housing for the working classes, and the desire of the Government, frequently expressed, that young architects who have served their country should be enabled to gather together their practice again and tide over the initial difficulty of this in employment on the housing schemes immediately going on, led me to suggest the formation of a panel of architects in Birmingham, especially for the work of housing by State-aided schemes. The matter has readily and unselfishly been taken up by the chief architects of the City, and a council of four are lending their aid, and the immense value of their experience makes it possible for the younger man, with his artistic ability, to be employed on the work.

It is undesirable that individual architects should be nominated by the Commissioner at the request of the Councils, and many of the well-known architects and members of the Town Planning Institute are already very fully occupied.

The procedure is as follows: On request by a Local Authority, the Commissioner will put this authority in touch with the Secretary of the panel of architects.



The Committee will then consider the district and its requirements, and appoint from the members of the panel one chief architect and as many of the younger men as can be employed expeditiously in the work to jointly carry out the scheme, probably in sections of from fifty to one hundred houses to each architect, the fees being pooled.

This will result in excellent work, calling forth individuality of design from the younger men, who will be assisted by the expert advice of the experienced architects. The Ministry will benefit by the joint work of many minds obtained at moderate charges, whilst the young architect will receive the work necessary to his existence and the impetus to create and the enjoyment of fulfilment requisite to maintain his keen interest in the work.

The panel is already at work.

In a lesser degree the cities and towns in the region have followed the idea and formed societies for the amalgamation of the architects, and this has enabled the Associated Architects to be called in to advise and prepare plans at once, where delays might reasonably, and indeed actually have, in other cases, occurred through varying opinions of the members of a local authority as to the choice of an individual architect.

#### London County Council Housing Scheme.

The London County Council, at its meeting on the 15th inst., approved the proposals of the Housing Committee for the provision of the first 10,000 dwellings under the Council's housing scheme within two years from the date of approval of the scheme by the Ministry of Health. The scheme as a whole provides for 29,000 new houses within five years of the approval of the scheme by the Ministry, with accommodation for approximately 145,000 persons.

The Committee in submitting the scheme for the provision of working-class dwellings estimated the total capital expenditure involved in the acquisition and laying out of estates and the erection of cottages under Part III. of the Act of 1890 as £23,560,000, or £24,820,000, according to the number of houses (20 or 15) to be provided to the acre, while the cost of slum clearances and re-housing under Parts I. and II. of the Act is estimated at £5,370,000. The total expenditure under both heads may, therefore, be taken as approximately £310,000,000.

It is clear, they say, that under present conditions anything approaching an economic or remunerative rent cannot be expected. Indeed, on the information available the annual deficit on the first 10,000 cottages is estimated at from £451,393 to £481,544, according to the number of houses per acre, which represents a deficit of from £45 2s. 9d. to £48 3s. 1d. a year per cottage. As regards the remaining 19,000 cottages the deficit is estimated at from £582,467 to £628,291, or £30 13s. 1d. to £33 1s. 4d. a year per cottage. To these figures has to be added the estimated annual deficit of £108,527 on block dwellings to be provided for rehousing in connection with the clearance of insanitary areas, which, however, cannot be undertaken before some progress is made with the provision of new accommodation elsewhere. The ultimate annual deficit upon the completion of the scheme is estimated at from £1,124,172 to £1,200,142.

The Finance Committee, reporting on the proposals and the estimated financial results, state:—

We observe that the rents on which the estimates are based are less than half the remunerative rents, and more than half the cost of the cottages would have to be borne by public funds. We desire to draw special attention to this in view of the statement reported to have been made by the Minister of Health (Dr. Addison), speaking as President of the Local Government Board a few weeks ago, that "where the circumstances of the districts allowed it

they ought to aim at getting an economic rent on two-thirds of the cost as soon as they could." The questions arise whether rents which fall so far short of the suggested standard will satisfy the Ministry of Health, whether it would be possible or practicable to charge higher rents to the tenants of the class for whom the houses are primarily intended, and whether the houses should or could be let to better-class tenants who can pay a higher rent approximating to the remunerative rent.

We gather that the question of rents to be charged does not form part of the scheme to be submitted to the Ministry, and that the Council will not be asked at present to arrive at a decision thereon. We desire, however, to take this early opportunity of expressing our opinion that, from a general financial point of view, it is most undesirable that so large a proportion of the cost should fall on public funds.

The proposal from the Housing Committee was approved for expenditure on capital account of £576,565, in respect of the erection of 650 cottages and two shops, and the construction of roads and sewers on the eastern section of the Old Oak estate.

#### The English House v. the American.

Mr. Frederick L. Ackermann, who visited England on behalf of the American Institute of Architects to report on the methods adopted by the Government in dealing with the various housing schemes carried out during the war, draws an interesting comparison between English and American house planning in a note contributed to the *Journal of the American Institute*. Writing after a study of the "Cottage Designs" issued by the R.I.B.A. for the Local Government Board, he says:

I am led to wonder what would happen if a group of our recently built houses were taken from one of our war-housing projects and set down in England without any changes. Would the houses rent, assuming that the rents charged would be such that others than the upper middle classes could afford to pay the price, and that schools and a reasonable number of communal features had been added? Would the British workman take kindly to the plans of the houses?

This interesting question arose in my mind as I studied the plans presented in these groups of premiated designs, for, from our experience, we know full well that plans such as are here illustrated would not "go" in the United States largely because of the location of the bath, water-closet, and scullery.

From the standpoint of function there is really no material difference between the British and American home of this class (five and six rooms). The difference really resides in the *ideas* which are associated with function in the two cases. The water-closet in one case, for example, is near the rear entrance, with the bath on the second floor; in another, the bath and water-closet are both on the first floor, accessible through the scullery. In some of the plans, the bath is in the scullery; and sometimes a part of the bath is under the drain-board of the scullery sink. Evidently the bath is still a migratory element, notwithstanding its being called a "fixed bath" in the programme. And one finds no closets on the second floor. I acknowledge that I am involved in details (like a client), but details are important in houses, particularly where the design is to be used as a standard.

Viewing many of the details of plan arrangement as I do, I am led to the question: Has the British architect considered at all seriously the functional merits of what may be

said to be a typical American house-plan of this type and class? Has he, for example, given as thoughtful a study to this phase of the housing problem as expressed in America as we in America have given to the contribution made by the British architect to the general subject of community planning—the arrangement of streets and the grouping of housing? I wonder! For I feel that, notwithstanding the difference in manners and customs, we have in our house-plans something of value which may be made use of in Great Britain.

So much for the things with which I find fault. It gives one satisfaction to observe a marked tendency to break away from the rather petty quality which characterised this effort a few years ago—there is no architectural junk in the designs given the higher ratings. In this respect these designs are an expression of progress—they represent a mean toward which we should strive, for in the past it has seemed impossible for us to approach this field which lies between the monotonous row-type house and the complex individual dwelling, the object in the design of which has seemed to be to make each house erected quite unlike its neighbour.

It is interesting to note that the competition called for five- and six-roomed houses only. This really means that the five-room house has come to represent a minimum standard with respect to accommodations. Let us hope so. And of even greater interest is that sentence in the programme which reads "The plans may be prepared without regard to any existing bye-laws or local acts provisions, the object being to show the best types possible if existing restrictions are removed." Evidently there are antiquated by-laws in England also.

But all this relates to details still. Shall they be built?—that's the truly vital matter—or will England, with that programme of action so finely conceived, slump back into the old pre-war technique (which was a generation ahead of us with respect to action) of merely dealing with sections of this problem? Better housing may come through direct action having this acknowledged end in view—and then again it may not. It may be that bad housing—a sordid, rotten environment—may be the cause of action of quite a different nature. It may be that the direct approach to the housing problem is by the way of a new industrial system—who knows?

#### Advisory Council on Housing.

Dr. Addison has appointed an Advisory Council to give advice and assistance to the Ministry of Health in connection with the Government Housing Scheme. He says he hopes to make constant use of this Council in the consideration of many large questions which are arising, and to arrange also that the Council shall be a nucleus from which sub-committees will be formed, with additional members, to consider detailed and technical questions.

The Council will be under the Chairmanship of Sir J. Tudor Walters, M.P., who was Chairman of the Committee on Building Construction, and is also Chairman of the Housing Group of the House of Commons. The following is a list of other members of the Council:—Mr. H. R. Aldridge, Secretary of the National Housing and Town-Planning Council; Mr. Neville Chamberlain, M.P., ex-Lord Mayor of Birmingham; Mr. Wm. Dunn [F.]; Sir Gilbert Garnsey, K.B.E., Financial Adviser to the Ministry of Munitions; the Right Hon. Henry Hobhouse, Chairman of the Somersetshire County Council and Vice-Chairman of the County Councils Association, Chairman of the Housing

(Financial Assistance) Committee appointed by the Minister of Reconstruction; Mr. G. W. Humphreys, Chief Engineer to the London County Council; Mr. R. L. Reiss, Secretary of the Garden Cities and Town-Planning Association, member of the Hobhouse Committee on Housing (Financial Assistance); Mr. E. Selby, F.S.I.; Mr. E. J. Brown, member of the Joint Industrial Council for the Building Trades; Mr. R. Wilson, Secretary of the Amalgamated Slaters' and Tylers' Provident Society, member of the Joint Industrial Council for the Building Trades; Lady Emmott, Chairman of the Women's Housing Sub-Committee of the Advisory Council of the Ministry of Reconstruction; Mrs. E. Barton, member of the Women's Housing Sub-Committee; Mrs. Sanderson Furniss, member of the Women's Housing Sub-Committee, member of the Executive Committee of the Garden City Association. The following questions have already been under the consideration of Sub-Committees of the Council, under the chairmanship of the members named below:—Standardisation of Materials and the Use of New Methods of Construction (Chairman, Mr. Wm. Dunn); Revision of Forms of Contract (Chairman, Mr. G. W. Humphreys); Revision of Forms of Specification and Schedules (Chairman, Mr. E. Selby); Financial Safeguards required in connection with Housing Schemes (Chairman, Sir Gilbert Garnsey).

Dr. Addison has also appointed a committee to advise his Department as to the best measures for disseminating information with regard to housing. The committee consists of the following members: Sir Herbert Morgan, K.B.E. (Chairman); Mr. H. R. Aldridge, Secretary of the National Housing and Town Planning Council; Mr. H. Holford Bottomley, C.B.E.; Miss Churton, Secretary of the Rural Housing and Sanitation Association; Captain R. L. Reiss, Chairman of the Executive Committee of the Garden Cities and Town Planning Association; Mr. Lleufer Thomas, Chairman of the Welsh Housing and Town Planning Association; and Mr. J. Silas Whybrow, Secretary of the Labour Housing Association.

#### Building Industries Consultative Board.

The Building Industries Consultative Board, the origin of which was described in the last number of the JOURNAL, is now fully constituted as follows:—

Architects.—Mr. John W. Simpson (President), Mr. Henry T. Hare, Major H. Barnes, M.P., and Mr. Ernest Newton, R.A. (appointed by the R.I.B.A.); Mr. E. J. Sadgrove (appointed by the Society of Architects).

Surveyors.—Mr. F. H. A. Hardcastle, Mr. Denny Watney, Mr. Walter Lawrance, Mr. Alan Paull, and Mr. R. B. Mann (appointed by the Surveyors' Institution).

Builders.—Mr. F. L. Dove, D.L., L.C.C., Mr. E. J. Hill, Mr. J. B. Johnson, Mr. R. B. Chessum, Mr. A. H. Adamson (appointed by the Institute of Builders and the National Federation of Building Trades' Employers).

Operatives.—Mr. J. P. Lloyd, Mr. D. Haggerty, Mr. T. H. Goodey, Mr. S. Stennett, Mr. J. Murrey (appointed by the National Federation of Building Trades' Operatives).

The President of the Royal Institute is Chairman of the Board.

The Board has already held several meetings and valuable progress has been made towards an understanding of the difficulties which are at present hampering the building industry. A deputation, headed by Mr. Simpson, has interviewed Mr. F. G. Kellaway, M.P., the Deputy Minister of Supply, in order to

obtain information on the subject of the supply of building materials.

#### The Architectural Association.

Mr. Maurice Webb, M.C., D.S.O., President of the Architectural Association, in the course of his address at the annual distribution of prizes to A.A. students, said that as a first step to widening the education given at the Association's schools, they proposed next session to open the schools to all who seriously intend to make their living in the arts and crafts connected with fine building, and not to architects alone. The course would be extended from three years to five, the last two years for advanced students who could afford the time to take it. Those who did so successfully would be granted exemption from certain portions of the Institute Final, an important concession for which they had to thank the R.I.B.A. Board of Architectural Education. This advanced course would consist of five main sub-divisions, under the supervision of different masters with acknowledged authorities on each. The sub-divisions, which could be taken separately, were: (1) Housing and Commercial Planning; (2) Modern Construction; (3) Decorations; (4) Business Methods of Organising Work and Offices; (5) Advanced Design. In each case it was intended to include practical experience on works and in offices. He advised all to take the section on housing. In the housing question alone, the first great post-war opportunity was already opening for architects to be of use to the State. £300,000,000 were to be spent on housing during the next few years in Great Britain alone. The authorities were anxious to distribute this work as widely as possible. The Association had put forward a suggestion which was under consideration by the Central Consultative Board, that a small share should be given to trained students under proper direction. It was up to the students to support the Association by qualifying fully for such confidence. The Association were re-opening their atelier next session, and hoped for a great improvement in this branch of their work—a necessary extension of the earlier day school training—from a proposal which they had made to the Royal Academy in connection with it. As they knew, one of their Past Presidents was President of the Royal Academy, and he was coming there with Sir Reginald Blomfield that day to study quietly the work of those schools; they might, therefore, be sure that this proposal was receiving their very careful consideration. It was hoped before the new year to have a series of well-built, well-lighted, heated, and convenient studios at the back, with a well-formed clubhouse in the front, where not only students, but members of the Association would be able to enjoy the library, with the necessary adjuncts in the shape of reading, writing, and luncheon rooms. A hostel is also proposed for students and young architects in practice whose homes are not in London.

#### Mr. Crace's Reminiscences.

On view in the Institute Common Room are a series of drawings, chiefly studies from colour decoration in Italy by Mr. John D. Crace [*Hon. A.*], which form part of the valuable collection presented to the Institute by Mr. Crace some three or four years ago. The drawings were made at different times during a period of nearly fifty years (some are dated 1858, and the more recent 1906). Mr. Crace states that they were made for his own instruction, with the object

of recording the true tones of colour and their correct relation to one another. Among them are several studies of ceilings of Renaissance date in Venice, including the well-known example by Paolo Veronese at San Sebastiano, and others from Santa Maria dei Miracoli and the Scuola di San Rocco, all of them rendered with rare skill, delicacy, and faithfulness to the originals. There are also sketches made in Rome, Orvieto, Siena, and Assisi.

Mr. Crace, whose Hon. Associateship R.I.B.A. dates back thirty years, was for over twenty years (1897-1917) President of the Institute of British Decorators. He was instrumental in procuring its incorporation and drawing up its articles, and designed its seal, its certificate of membership (the original drawing for which is in the Victoria and Albert Museum), and its Gold Medal. He is the fifth in direct descent of those in his family from father to son who practised in the art of decoration. He was Master of the Painter-Stainers' Company in 1884; his father, Mr. John Gregory Crace, was Master in 1879; and his grandfather, Mr. Frederick Crace, was Master in 1851. In 1908 he was the recipient at the hands of Sir Lawrence Alma-Tadema of the Gold Medal of the Institute of British Decorators, and advantage may be taken of the present opportunity to recall the interesting reminiscences given by him in his address on that occasion:

Quite in my youth (said Mr. Crace) I was constantly the companion of my father in visiting the various works on which he was engaged. Amongst those at that time of importance was the new building of the Houses of Parliament. The House of Lords was finished much before the rest of the building, and I was a frequent visitor there when the work was in progress. It brought me into contact with a great number of very earnest and interesting men: Barry the architect, Pugin his right hand, John Hardman, Herbert Minton, Thomas the sculptor, and Myers—lion-like old Myers—who was the building contractor. All interesting men and all intensely earnest about their work, and most of them frequently at my father's house—Pugin in particular.

In 1847 I was present in the gallery when the House of Lords was used for the first time, and I perfectly well remember the old Duke of Wellington and the famous Lord Brougham and Lord Grey, who were the first three peers to enter it. I have their images stamped on my memory very clearly now. Another interesting fact connected with the House of Lords occurred later to myself, 45 years after the House was first completed. I was called upon to restore the decoration, and while doing so I discovered that one of the men who was employed upon the work 45 years before, for my father, was still in my employ, and I think that is an interesting fact to all those who are employers of labour of any kind.

The next interesting incident very clearly on my mind was the 1851 Exhibition, in which there was enormous enthusiasm among the people who were directly connected with it, and it was at that time that I first became acquainted with Paxton, who was a friend of my father's and a constant visitor at his house during that year. A little later, in 1854, I was on Ryde Pier when the famous "Baltic" fleet sailed under Charlie Napier—all wooden sailing ships—and that was the year in which I began my business career and I was actively engaged in decoration before the year was out. I was then under 17 years of age. My father had fallen into poor health that autumn, and I was called home and had very soon to take up the control

of various works as well as I could with the assistance of my grandfather, then a very old man. The public incident which is connected with that in my mind was the visit of the French Emperor and Empress to the Queen at Windsor, in the early part of 1855, and that took place during my father's illness. He had been largely engaged in making the preparations for their visit, and, boy as I was, a great deal of that very responsible work fell upon me at that early age.

The year 1855 was interesting from a decorative point of view for several reasons. It was the year of the first of the French International Exhibitions, and for the first time I went abroad with my father to that exhibition. In the late autumn of the same year I went with him also to Berlin to see the Decorations of the New Museum there, which was then an extremely interesting building in a rather cold Greek style, but full of very carefully thought out work, and, I suppose, is so to this day. The colour decorations were so extremely clever and so useful to their purpose that they engaged our close attention for some days at Berlin, my father being much impressed with their merit. From that time I was not only actively engaged in assisting my father in carrying out decorative work, but I was also taking lessons in both oil and water-colour painting, attending Professor Donaldson's lectures on "Architecture" and studying the subject generally, also attending John Marshall's lectures on "Artistic Anatomy," and in many ways I had a most strenuous life for some years, for I was constantly visiting work in progress and also studying the work with the object of really seeing exactly how everything was done.

In 1859 came what I may call the first great event of my life from an artistic point of view. My father decided to send me to Italy, and he gave me a sum of money and sent me away for three months, as to which I received most kind and valuable advice from Sir Digby Wyatt. That was my first visit to Italy. I started with a very distinct prejudice in favour of Gothic architecture. I had seen so much of Pugin and all the work connected with the Houses of Parliament, and the work of Scott, Carpenter, and other men who were identified with the Gothic revival here, that I went with the feeling that everything else was undesirable. However, I do not think I had been a week on the other side of the Alps before I began to modify that view very considerably, and within a few more weeks I was quite alive to all the beauties of the Italian Renaissance. I mention that because I think it is one of the things which I would be constantly impressing upon this Institute, namely that no greater benefit can be done to any young man about to enter on the profession than to send him as soon as he has had experience enough to know how to apply it, to study the work of the great Italians. They were great colourists, they understood the real objects of decoration, and they usually had an extraordinary facility in many varieties of decorative art. In fact, the Italian artists of the fifteenth and sixteenth centuries appear to have excelled in all arts alike. They were most extraordinary men, from whom more is to be learnt in a short time than from the artists of any other country.

But in this year, 1859, the war for Italian freedom broke out while I was still in Italy. At the time I was going about the country with a sketch book, and was quite unaware that I stood a very fair chance of being shot at any moment as a spy. My people at home were in a dreadful fever on account of the risks I was running, although at the time I was absolutely ignorant of anything unusual going on, except the general cheering when the volunteers went to the front. Tuscany changed hands while I was there.

It is one of the advantages of decorative work that it brings one into contact with many interesting people. Among those whom I met at that time, and who was extremely kind to me, was the great Lord Gough, the Indian

hero, then over 80 years of age, but who seemed much younger. He was a fine, upright soldier, a man of spare, vigorous figure and without a sign of tremor about him.

Then came the Exhibition of 1862, which was inaugurated under somewhat difficult and discouraging conditions, owing to the death of the Prince Consort in the previous year. There was great difficulty towards the completion of the building as to how it should be coloured, and I believe two or three people tried their hands at it before my father was called in; he was generally said to have succeeded and to have done much to redeem the interior of what was possibly one of the ugliest buildings, for its size, ever erected in this country.

In the year 1867 there was another great exhibition in Paris, and for both these exhibitions I designed several objects which I feel that I may look at now without being ashamed of them.

In 1868, being then a major of Volunteers and having, while engaged as such, caught a chill, followed by pneumonia, I was ordered abroad for the next winter. I absolutely declined to be sent to laze about at an hotel in the Riviera, and I made up my mind, or rather a suggestion from the late William Spottiswoode (who was President of the Royal Society and a man of delightful character) put into my head the idea of going to Egypt. That I look upon as the second great event of my life. It had a great effect upon my views of colour, and it was a most interesting time from all points of view; and although I went in order to spend a time of leisure away from the English climate, yet I believe that I never worked harder with my pencil than I did when away on that holiday, with the result that I brought away some knowledge of Arabic Art and Architecture, and a great many sketches and notes, which, although they have not in any way served me for copies, impressed upon my mind many schemes of colour which would probably otherwise have remained outside my experience. At that time, for it is now nearly 40 years ago, the streets of Cairo were a continual kaleidoscope of colour, and afforded to me a most valuable study from day to day.

Another interesting fact, as regards people, was that while I was in Egypt I rode through (dry-shod) the Suez Canal, with Frederick Leighton for a companion, and with M. de Lesseps, its originator, who explained to us all the details as we went along. That I may be allowed almost to consider an historical event, regarded from my point of view, because, after all, my companions themselves were famous, and there is now that great highway of the biggest ships of the world which I quite well remember having ridden through on horseback. I afterwards rode through Palestine in 1869, and that has given me one more zest to what I may call the recreative side of my life, and added a great interest to the private side of my career. In 1871 I went to Spain, and there, for the first time, saw the Alhambra, also the wonderful pictures of Madrid, and the buildings at Seville, Granada, and other cities.

I think it was in 1880, when my father was already 71 years of age, that he carried out what I think was, perhaps, the most successful of all his private works, and that was the whole of the inner construction and decorations of the Mercers' Hall, including its oak staircase, and so forth, which were all of his design, and that, I think, is one of the best things of the kind in the city, and to have executed that when 71 years of age was not a little to his credit.

A few years later he ceased to actively take any part in business, and he died in 1889. From that time I always lost a great deal of my zest and pleasure in work. He was not only my best counsellor, but was my most valuable critic, and these two things are always a tremendous help in cases of difficulty.

As a member of the Literature Committee for the best part of thirty years, Mr. Crace's great store of knowledge of books, art and archaeology have been at



the service of the Institute, and have proved of inestimable value. Until his sight failed him two or three years ago he was a regular contributor to the Institute's proceedings, and papers and articles from his pen on a variety of subjects will be found in the volumes of the TRANSACTIONS and JOURNAL.

#### London School Buildings.

"Diarrist" writes in the *Westminster Gazette*:

Let us hope there will be real support for the campaign which is being talked of against the appalling ugliness of national school buildings, especially in and around London. Unfortunately we appear to have arrived at a stereotyped pattern, and a pattern deliberately and blatantly hideous. In many districts the national school is the most important building, and what is to be hoped of a district in which the principal building is so repulsive? It is generally agreed, I think, that the contemplation of beautiful things has a good effect on the impressionable minds of children; wherefore we make the building most familiar to them as ugly as possible. It would be easy enough to give the necessary accommodation without sacrificing everything else, and now that new schools will have to be built in new districts, I would suggest to Sir Aston Webb that he has an opportunity of making his Presidency of the Royal Academy memorable.

#### Exhibition of War Memorials.

The first of the two Exhibitions of War Memorials to the Fallen, which are being organised under the auspices of the Royal Academy War Memorial Committee, is now open to the general public at the Victoria and Albert Museum, South Kensington. These Exhibitions are being designed, not with the purpose of supplying material which might actually serve as memorials, but in order to provide suggestions which may be of assistance to artists and the public who are interested in their promotion or execution. The Exhibition in the Museum is arranged in two sections: in the East Hall are grouped objects, designs and photographs chosen from the Museum collections, which may be regarded as offering suitable suggestions; in the West Hall will be found designs and models for memorials, which have either recently been executed by living artists or are now in hand. These have been selected by a Committee specially appointed by the Royal Academy War Memorials Committee and officers of the Victoria and Albert Museum jointly. A room adjoining the West Hall has been set apart to serve as a bureau of reference, to which the public may apply in case further research or information is required. The Exhibition will be open free to the public on week days from 10 a.m. to 6 p.m. and on Sundays from 2.30 to 6 p.m., and it is expected will remain open throughout the summer. The Official Guide (Mr. Leslie O. Faraker) will conduct visitors and lecture in the Exhibition of War Memorials at 3 p.m. daily.

#### MINUTES.

At the Sixteenth General Meeting (Business and Ordinary) of the Session 1918-19, held Monday, 16th June, 1919, at 8 p.m.—Present: Mr. Henry T. Hare, President, in the Chair; 19 Fellows (including 10 members of the Council), 15 Associates (including 3 members of the Council), 3 Licentiates, and a few visitors—the Minutes of the Meeting held 2nd June 1919 were taken as read and signed as correct.

The following candidates for the Fellowship were elected by show of hands under By-law 10:—

#### AS FELLOWS [19].

ADAMS: PERCY HENRY [A., 1895].  
ALLISON: RICHARD JOHN, O.B.E. [A., 1904].  
BRIDGES: EDWARD JAMES [A., 1888], Lieut.-Colonel S.R.E.S., Salisbury.  
BRIGGS: MARTIN SHAW [A., 1905].  
BUNNEY: MICHAEL, M.B.E. [A., 1906].  
CHESTON: JOHN ALLFORD [A., 1912].  
COMYN: HEATON [A., 1900].  
FRANK: JAMES ERNEST [A., 1900].  
GIBBONS: JOHN HAROLD, M.C. [A., 1902], Manchester.  
HALL: EDWIN STANLEY, M.A.Oxon. [A., 1911].  
HATHAWAY: PERCY WILLIAM [A., 1911], Rochdale.  
HINCHLIFFE: PERCY ARCHIBALD [A., 1905], Barnsley.  
HODDAY: WILLIAM HERBERT [A., 1902].  
MOORE: ARTHUR HENRY [A., 1892].  
MYERS: NORMAN TOLLER [A., 1907].  
SIMPSON: WILLIAM BEGG [Licentiate, recently passed the Qualifying Examination].  
TOWSE: STANLEY [A., 1903].  
WARD: WILLIAM HENRY, M.A.Cantab., F.S.A. [A., 1893].  
WATSON: WILLIAM ERNEST [A., 1905], F.S.I., F.R.San.I., Liverpool.

The President announced that the votes for the candidates for Associateship had been taken by voting papers in accordance with a requisition from members under By-law 10, and read the following report from the Scrutineers:

To the Chairman of the General Meeting, 16th June 1919,—

The Scrutineers appointed to count the votes received for the election of Associates beg to report that 457 voting papers were received, of which 2 were invalid. The following 95 candidates were elected:—

ARCHER: HOWARD DENNIS [S. 1914], Leyburn, Yorks.  
ARNOLD: RAYMOND CHARLES [S. 1912].  
ATCHINSON: HAROLD PERCY REYNOLDS [S. 1912], Sheffield.  
BANNISTER: HARRY [S. 1915].  
BARLEY: FRANCIS ALFRED [S. 1913].  
BATES: CYRIL FRANCIS [S. 1912], Newport, Mon.  
BEAVERSTOCK: HORACE [S. 1914], Nottingham.  
BESTOW: SIDNEY FRANCIS [S. 1913], Newcastle-on-Tyne.  
BISIKER: ARTHUR MILTON [S. 1913].  
BONSER: KENNETH JOHN [S. 1913].  
BREWILL: LIONEL COLIN [S. 1912], Edwalton, Notts.  
BRIDGE: THOMAS MOSS [S. 1914], Walkden, Lancs.  
BROWN: JAMES McLELLAN [S. 1913], Dundee.  
BRUTON: BERTRAND FREDERICK [S. 1912].  
BUTCHER: ALBERT JOHN [S. 1912], Coventry.  
CAWKWELL: ROBERT [S. 1913].  
CHEADLE: JOHN OSCAR [S. 1911].  
CHERRITON: WILLIAM GEORGE LLOYD [S. 1913].  
CHURCH: LESLIE DONALD ALGAR [S. 1913].  
CLARKE: JAMES ANDREW [S. 1911], Manchester.  
COLE: EDWARD ROBINSON FERDINANDO [S. 1914], Liverpool.  
COPPLESTONE: THOMAS STAPLEDON [S. 1911].  
CROSSLAND: HARRY EWART [S. 1912], Sutton-in-Ashfield, Notts.  
DAVIES: EDWARD CECIL [S., 1913].  
DONALDSON: BENJAMIN [S. 1911], Gosforth, Northumberland.  
DOUGILL: WESLEY [S. 1913], Wensleydale, Yorks.  
DYSON: ERNEST VINCENT [S. 1913], Leeds.  
ELOART: RONALD EDWARD [S. 1912].  
ELSWORTH: LANCELOT ANDREW [S. 1912].  
FARRER: JOHN CAMPLIN [S. 1912].  
FISHER: KENNETH JOHN [S. 1914], Brecon.  
FOOTE: ALEXANDER ALLAN [S. 1913], Edinburgh.  
FOSTER: WILLIAM SYDNEY [S. 1912], Rotherham.  
FOSTER-TURNER: FREDERICK WENTWORTH [S. 1914].  
GARRARD: CYRIL PROCTOR [S. 1913], Ipswich.

GERLLIER: CECIL [S. 1913].  
 HALL: ROBERT BEHARLEY [S. 1916, passed Final Examination 1916].  
 HARRISON: AUSTEN ST. BARBE [S. 1914].  
 HART: EDMUND JOHN [S. 1911], Manchester.  
 HEYWOOD: LEONARD [S. 1914], Bolton.  
 HILL: GEORGE NOEL [S. 1913], Wallasey.  
 HONEYMAN: JAMES MACLAREN [S. 1915], Glasgow.  
 HOOPER: ARNOLD FIELDER [S. 1913].  
 HOPKINS: WILFRID WALTER [S. 1915].  
 HOWE: JOHN LIBERTY [S. 1912].  
 JOHNSON: ARTHUR GERALD [S. 1913].  
 JONES: CHARLES FREDERICK [S. 1914], Cardiff.  
 JONES: NEVILLE WYNN [S. 1914], Swansea.  
 KELLOCK: ANDREW DUNCAN [S. 1913], Edinburgh.  
 KNIGHT: DOUGLAS EDWARD [S. 1914], West Bridgford.  
 KNIGHT: WALTER JOHN [S. 1912].  
 LAWRENCE: FREDERICK ORCHARD [S. 1915], Liverpool.  
 LEWIS: HAROLD MORGAN [S. 1914], Pontypridd.  
 LYNE: DANIEL ROY [S. 1911].  
 MCBATH: JOHN GORDON [S. 1914], Sale, Cheshire.  
 MACKAY: HARRY [S. 1913].  
 MACKENZIE: KENNETH BEAUMONT, M.C. [S. 1911], Huddersfield.  
 MARCHANT: FRANCIS OLIVER, M.C. [Special War Examination], Hankow, China.  
 MARCHINGTON: JAMES EDWARD [S. 1911], Sheffield.  
 MARTIN: WILLIAM HERBERT [S. 1913].  
 MARTIN-KAYE: DOUGLAS NIEL [S. 1914].  
 MEREDITH: JOHN NELSON [S. 1914], Prestatyn, N. Wales.  
 MORTIMER: ALAN LEE [S. 1912], Leeds.  
 MORLEY: CYRIL SAVAGE [S. 1911].  
 NEWBOULT: BERNARD [S. 1913], Shipley, Yorks.  
 NORRIS: ERNEST BOWER [S. 1911], Isle of Man.  
 PALMER: ROGER LIDDESDALE, M.C. [S. 1913].  
 PARKES: EDGAR MAINWARING [S. 1912], Northwich.  
 PORTSMOUTH: OLIVER SPENCER [S. 1912], Swansea.  
 RICHLEY: NORMAN [Special War Examination], Percy Main, Northumberland.  
 ROBERTSON: DAVID [S. 1912], Dumfries.  
 ROBERTSON: GODFREY ALAN KEITH [S. 1911], Belfast.  
 RUBERY: SAMUEL [S. 1912], Wolverhampton.  
 SHENSTONE: GERALD [S. 1913], Leigh-on-Sea.  
 SHIBLEY: ALBERT REGINALD [S. 1913], Sheringham.  
 SLATER: NORMAN WOODFORD [S. 1914], Wolstanton.  
 SPOONER: FRANK PHILIP [S. 1912].  
 STAINSBY: GEORGE PAWSON [S. and passed Final Exam. 1917].  
 STEWART: CUTHBERT BERTRAM [S. 1914], Darlington.  
 STEWART: ADAM KNOWLES [S. 1914], Loughgilly.  
 STOBART: FOSTER ROWLAND [S. 1913], Newcastle-on-Tyne.  
 STONE: JOHN THOMAS [S. 1915].  
 STONER: ARTHUR PHILIP [S. 1912], Brighton.  
 STREADWICK: VERNON JAMES [S. 1914].  
 STRICKLAND: HARLEY CLARENCE WILFRID [S. 1914], Sunderland.  
 SUTCLIFFE: FREDERICK [S. 1911], Colwyn Bay.  
 TAYLOR: JOHN ALEXANDER CHISHOLM [S. 1915], Oldham.  
 THOMAS: WILLIAM NORMAN [S. 1911], Birmingham.  
 THOMERSON: HAROLD ALBERT [S. 1911].  
 WARWICK: JAMES GUY [S. 1915], Peterborough.  
 WEST: JOHN ARCHIBALD [S. 1911], Nottingham.  
 WILSDON: PERCY THOMAS [S. 1911].  
 WILSON: JOSEPH [S. 1913], Glasgow.  
 WOOD: THOMAS SPENCER [S. 1915], Birmingham.  
 WRIGHT: CHARLES HENRY [S. 1912], Aylesbury.  
 Scrutineers: C. Lovett Gill, L. S. Sullivan, Harvey R. Sayer, J. Reginald Truelove, R. Stephen Ayling, John B. Chubb, A. Halcrow Verstage, J. MacLaren Ross, E. A. Young, A. E. Mayhew, John Cash (Chairman).

The President having declared the candidates elected in accordance with the report, a vote of thanks was passed to the Scrutineers for their labours in counting the votes.

A Paper by Mr. Edward P. Warren [F.], entitled "An Architect's War Experiences in France and the Balkans," was read by the author, and on the motion of Mr. W. H. Ward [F.], seconded by Captain Martin S. Briggs [F.], a vote of thanks was passed to him by acclamation, and was briefly responded to.

The Meeting terminated at 10 o'clock.

At the Seventeenth General Meeting (Ordinary) of the Session 1918-19 held Monday, 23rd June 1919, at 8 p.m.—Present: Mr. Henry T. Hare, *President*, in the Chair; 36 Fellows (including 10 members of the Council), 31 Associates (including 3 members of the Council), 10 Licentiates, and several visitors—the Minutes of the Meeting held 16th June were taken as read and signed as correct.

The President delivered an Address on the Presentation of the Royal Gold Medal to Mr. Leonard Stokes.

Having been invested with the Medal, Mr. Stokes addressed the Meeting in reply, and tribute to the excellence of his work and his great services to the profession was rendered in remarks by Sir Aston Webb, P.R.A., Mr. Paul Waterhouse, Sir Ernest George, R.A., and others.

On the motion of Mr. Waterhouse, seconded by Mr. Arthur Keen, the thanks of the Institute were accorded by acclamation to Mr. Hare and Mr. Guy Dawber, the outgoing President and Hon. Secretary.

Mr. Hare and Mr. Dawber having responded, the proceedings closed and the meeting terminated at 9.15 p.m.

#### Members' Addresses Wanted.

The Secretary would be glad to receive intimation of the addresses of the following:—

##### ASSOCIATES.

Allen-Lodge: Albert Robt. Grovenor: Harold James.  
 Brentnall: Harold Percy. Major: William Paul.

##### LICENTIATES.

Baines: William Henry. Lambert: Wilberforce P.  
 Ball: Edward Charles. Lawrence: Albert Herbert  
 Carrick: Wm Arthur Laurie. Orlando.  
 Goodall: Harry H. Rayner: Frederick John.  
 Grote: Arthur Lloyd. Scrivener: Harold Moore.  
 Hunter: John Marshall. Smith: James Buchanan  
 Huntington: Fred. Jas. Pentland.  
 Jackson: Charles Ernest. Walder: Horace Hampton.  
 Killby: Ashley Scarlett. Young: James.

#### Members' Business Announcements.

A partnership has been arranged between Mr. W. H. Thorp [F.], of Leeds, and Mr. G. H. Foggitt [A.], of Yeaton. Their practice as architects will in future be carried on under the style of Thorp and Foggitt at Carlton Chambers, 84 Albion Street, Leeds, a branch office being continued at Yeaton.

Mr. Martin Briggs [F.], having been demobilised from the Army, has recommenced practice at 11 Red Lion Square, W.C.1.

DEMORILISED Officer, Member of the Institute, having old-established practice in the Eastern Counties, desires a Partner to work together for a time, or would dispose of practice later by mutual arrangement.—R. H. F., c/o The Editor, JOURNAL R.I.B.A., 9 Conduit Street, W.

#### R.I.B.A. Publications.

HOUSING OF THE WORKING CLASSES: Cottage Designs awarded Premiums in the Competitions conducted by the R.I.B.A. with the concurrence of the Local Government Board. Demy 40. Second Impression, 7s. 6d. net; postage, 6d. extra.

DILapidations. A Handbook prepared by the PRACTICE STANDING COMMITTEE of the R.I.B.A. and issued by the authority of the Council. Second Edition, Revised. Demy 80. 7s. 6d. net; postage, 2s. 9d.





PEACE DAY.  
THE DECORATIONS OF THE ROYAL INSTITUTE BUILDING.





## A MESSAGE FROM THE PRESIDENT.\*

July 1919.

*Because time presses, and because the traditional Address from the Chair may, I think, be more usefully devoted to matters which interest laymen than to our internal affairs, I venture to anticipate the formal Opening of our Session in November next, and to say a few words to my brother architects at this moment of National Triumph.*

I WANT, first, to tell you with what diffident misgiving of my own fitness—with what sincere humility—I have accepted your call to preside over this great and famous Institute. To carry on the tradition of the immortal chiefs—Cockerell, Tite, Gilbert Scott, Street, and others—who have preceded me in this Chair, is a task far beyond my competence, unless the whole-hearted support of my fellows comes to my aid.

### Reform.

We of the new Council assume office at a culminating point in the world's history. Peace has just been signed; the old order changeth—nay! hath changed—and giveth place to the new. Our responsibility to our brethren, at this critical moment, is very great. There are urgent matters to decide; the profession, like the world outside it, is vocal with a vague discontent. Part of this is doubtless psychological, due to nervous impatience with the slow return to equilibrium of vast social forces displaced and shaken by the war; but there is also an instinctive, and, I believe, sound, perception of the fact that restoration to pre-war conditions will not satisfy our needs. There is a desire for closer internal union; we are asked to take steps for the consolidation of our interests, and for their effective protection; it is urged that we should secure a fuller measure of public confidence and esteem for our profession.

To these demands I believe it our clear duty to give most sympathetic attention, bearing always in mind that while our first duty is towards our own members, who have proved their quality in the ordeal of examination—and especially towards those who have served and fought for us—yet the best and highest interests of this Royal Institution are those of the State. No selfish policy, seeking private advantage at the expense of the community, can either succeed or endure.

### The New Charter.

The moment is opportune for reform, since in the forefront of our programme for the Session is the procedure with regard to a new Charter, which was arrested by the outbreak of war. This Charter, I may remind you—whose outlines have already received the sanction of the general body of members—provides for the establishment of a Register of qualified architects administered by a Registration Board, and for a revised Constitution of the Council.

\* At the first meeting of the new Council the President, Mr. John W. Simpson, made this Address to his colleagues. By a unanimous vote of the Council it was decided that it should be published in the next number of the Royal Institute Journal.

I have refreshed my memory both as to the principles it embodies, and as to the debates which led to their settlement. It appears to me a wise and statesmanlike measure, and the Council will undertake at once the duty of drafting it with a view to its submission to the Privy Council and its definite approval by the General body. They will also consider whether other reforms in our organisation might not be incorporated in this document; with the assent, of course, of the general body.

Meanwhile, let me declare that we of the Royal Institute proffer goodwill and help to all architects, whether within or without our Incorporation. Already, as I have said, we have determined on a substantial measure of reform. To attempt to grasp at once all that some of us want, might mean the loss of much that we have; we must not divide this noble Institute by undue anxiety to satisfy a section. If we are to make of the profession a homogeneous structure, we must build from the base upward, from within outward; adding stone to stone with cautious care that each is rightly and soundly placed. The first step to unity is a Council solid as to its policy, and steadily pursuing it. I have confidence that the members will support the considered judgment of those whom they have elected to represent them; and there will be no loss of time in preparing it.

**Publicity.** An essential condition of unity is the interest of members in the work of their Council and Committees. We publish, it is true, a statutory annual Report, a rather formidable document, some of whose miscellaneous contents are necessarily out of date, others apt to be overlooked in the crowd of items. But some better way is needed to keep members in constant touch with their affairs; Parliament itself would be forgotten if its proceedings were not promptly reported. The JOURNAL is our permanent official record, and this, for many reasons—cost among them—can only appear at comparatively long intervals. I have received the most cordial and generous offers of help from the Press; and propose to furnish the editors with the fullest information available, as occasion arises. Some of the matters with which we have to deal are of a confidential and delicate nature, and we do not wish our members to withhold their difficulties from the Council for fear of publicity; but with the assistance of the Vice-Presidents and Secretaries I shall hope to avoid indiscretion.

**The Dinner.** Not unconnected with the desire for closer internal contact is the general feeling that we should return to our former practice of holding an annual public dinner. A festival of this kind is a most valuable means of bringing members of the Royal Institute into personal friendship one with another, and, incidentally, an occasion for honouring distinguished public men to whom we are indebted for advice and support. In any event, whether we dine together or prefer some other form of entertainment, we shall take the opportunity of making it our public acknowledgment and welcome to our members who have served in His Majesty's Forces.

**Country Members.** This personal intercourse of members is of great importance. It is asserted that the public "knows the names of twenty painters where it knows the name of one architect"; the mere fact is that we do not know each other as we should, and part of the prevailing apathy with regard to our affairs is a consequence of it. In particular, the relations between London and country architects need strengthening: their conditions vary in many ways, and sympathetic understanding comes only from mutual knowledge. It will be, I consider, my duty, as well as a pleasure, to visit all the Allied Societies—or as many as may be possible—during my term of office; not to deliver formal addresses, but to meet their members in friendly conversation, and learn their special difficulties and needs.

**Official Architects.** The relation of those of our members who have accepted official positions to those in private practice, also claims our attention. For the moment I need only say that, whatever exception may be taken to the system under which they work, they themselves enjoy equal consideration and honour with their brethren. They are with us and of us; it is for us to assist them in every possible way; for them to support the Royal Institute with all loyalty, and work for the common interest.

**The "Journal" and "Kalendar."** I have already mentioned our JOURNAL. This was, before the war, a production of considerable permanent value; its revival, and that of the *Kalendar*, is now being considered. Members receive these gratuitously; they rightly attach importance to the privilege, and while they have acquiesced in its partial withdrawal during the war, they are now naturally looking for its restoration. How far we can go towards renewing the former high standard of these publications must depend upon the funds available. The *Kalendar* could, no doubt, be much reduced in size, and still remain a valuable handbook. Every member must receive a copy of the Charter and Bye-Laws on his election, and it may be most convenient to print these in the *Kalendar*; but a great deal of permanent matter could be printed as separate pamphlets, and charged for.

**Education.** The Board of Architectural Education is now a powerful body, ranking as a cousin, almost as a sister, to the Council. This Board, under its gifted Chairman, Mr. Waterhouse, will, no doubt, direct its mind to the suggestions which are being made for widening the education of architects on the financial and scientific side of the profession. The mind of the student is receptive, and his frame elastic; his position nowadays reminds me of those contumacious prisoners, on whom there was ordered to be laid "so great a weight as they could bear—and more"; but his indomitable spirit will doubtless sustain the added load, and his reward will come when he enters into his kingdom of practice.

**The Library.** The Institute, I think, hardly appreciates as it should the wonderful Library it possesses. It is certainly not used as so great an instrument should be in connection with our educational work. As a beginning, our Librarian has promised to give us an address on the contents and the functions of such a collection, and to develop his paper later on into a guide to its treasures and their use. A special notice will be sent to students inviting them to attend this lecture.

**Civic Survey.** In connection with the Sessional papers, the Council has asked Mr. Newton, whose work and that of his colleagues in connection with the subject merits our hearty gratitude, to give us an account of the Civic Survey work, and the use to be made of the mass of valuable drawings and documents which have been compiled.

**Finance.** The subject of our Finances must have careful consideration, and two or three of the clear heads on the Council will report to us, as soon as may be, as to what income is available for expenditure, after providing for the permanent charges and outgoings; with any recommendations they may wish to attach thereto. Activity, I fear, generally connotes increased expense, and there is no doubt that our resources reflect the great privations of the profession during the war. On the other hand, an energetic policy may bring financial as well as moral support.

The question of sanctioning the formation of an Indian branch of the Royal Institute will be submitted to the Council. If such a proposal meets with approval, it will probably prove a source of increased revenue.

It is most desirable that qualified Associates and Licentiates should proceed to the Fellowship class, and I earnestly direct their attention to this matter. In the case of Licentiates I understand that some, whom we should be glad to welcome as full members, are deterred from submitting their work by a modest fear that they may be deemed unworthy, and that failure in the required examination might injure their professional position. If any of these care to send their credentials to me in confidence I shall be most happy to advise them as to their prospects of success.

**Professional Conduct.** It has long been in my mind that a definite Code of professional conduct would be very helpful to our younger, perhaps to all our members. Such a code, drawn up by Guadet on behalf of the Société Centrale des Architectes Français in 1895, has been adopted by every society of architects in France; and a draft on similar lines will be laid before you for approval in due course.

**Street  
Architecture.**

"The advancement of Civil Architecture" is the statutory duty of this Institute, and at the instance of our late President I drafted for consideration a proposal for its direct encouragement by offering a Bronze Medal every year for the best street façade. A similar award, as you are no doubt aware, is made by the Corporation of Paris, who recognise the owner of the property premiated, as well as its designer, by an abatement of one-half of his frontage dues; both the distinction and the concession are highly appreciated. Owing to the sub-division of our civic authority into corporations and boroughs, it may not be practicable to achieve this, but I am confident that both the City and the County Council of London, no less desirous than their sister Council on the Seine of improving the beauty of their city, will be willing to co-operate with us in some similar way. Although I have spoken of London only in connection with the award, we may hope, with the aid of our Allied Societies, presently to extend the principle to the other chief cities and towns of the Empire. I commend the idea to their favourable consideration.

**Peace  
Decorations.**

As a Royal Institute, it will be proper to indicate our loyal thankfulness for the conclusion of victorious Peace by suitably decorating our House on the 19th inst., and Professor Beresford Pite has been good enough to undertake the design and execution of the work.

**Building  
Conditions.**

The condition of the building industry touches the profession closely. Hostilities were suspended eight months ago, Peace is now concluded, and the trade remains paralysed. It is imperative that life and motion be restored without delay, and it is for us to take a leading part in that restoration. We have already, as you know, set up a Building Industries Consultative Board, composed of builders, surveyors, operatives, and architects, of which your President is Chairman, and Mr. Lloyd, of the National Federation of Building Operatives, Vice-Chairman. The single interest of architects and surveyors is to get the machinery of building into active operation; they are quite disinterested as regards the special views of either employers or employed. By bringing together all four classes of workers we hoped to create a body—less formal and more elastic than the official Whitley Council, but in touch with it—where professional men who have the confidence of the two executive groups, might join hands with both. That this confidence exists was shown by the unanimous choice of the chairman; and the first meetings have produced wholesome and open discussions of great promise. I hope that your delegates may soon be able to report progress to the Council, and have the benefit of their direction as to future initiative.

**Housing.**

As regards the special work of Housing, the needs of the State will certainly be given precedence of all private demands; the latter will, therefore, be satisfied only at enormous cost, unless we can succeed in re-establishing a proper economic proportion between wages and production. The Architect may be certain that the amount of work which lies before him, in connection with housing, is prodigious. We are as yet only on the fringe of the problem; and members of the profession owe more than they perhaps realise to my predecessor, Mr. Hare, for his persistent efforts to secure proper recognition for them by the Government. The policy of the Royal Institute is directed to procuring for the State Housing Scheme the maximum output of building in the shortest possible time; and to securing the employment of all qualified architects who have served in His Majesty's forces, by a wide distribution of the work of design and superintendence. A Central Consultative Board has been formed, and is already at work, with a view to assisting County and Local Authorities by their advice both in the selection of architects, and in the preparation and execution of their schemes. It is hoped that the Ministry of Health may officially endorse the Royal Institute scale of charges, and accept our proposals for carrying out the larger schemes by groups of executants, each group being under the general direction of a superintending architect. The Board is also considering the means of entrusting a limited amount of responsibility in connection with such groups to specially trained students.



**International  
Amity.**

The great importance of preserving the friendly relations which exist between the Royal Institute and our brethren abroad has not been forgotten. We realise that we may possibly be called upon to combine in one of the greatest building schemes in history, and I have been authorised to send in your name a telegram of greeting and congratulation, on the occasion of our first Council meeting after Peace has been signed, to the Societies of France, to the American Institute, and to our Allied Societies across the Seas.

The foregoing outline by no means exhausts the subjects which will, I hope, occupy our attention during the forthcoming Session. The formation of a parliamentary group, whose vigilance should guard our beloved art when legislative proposals might affect it, has already the sympathetic approval of Major Barnes, M.P. The Royal Institute may be privileged to take the initiative in an even wider-reaching scheme, for mutual assistance and protection in the uncertain times before us. But I have said enough to show that we have a session of full and strenuous work before us. You will supplement my modest and somewhat commonplace programme by your own suggestions.

**Procedure.**

A word on procedure before I conclude. The Council has accepted a proposal to reduce its Committees to a minimum; we do not want to squander the time of busy men on any but strictly necessary meetings, and we have been too much in the habit of referring troublesome matters to special committees, instead of dealing with them directly, and at once. On the other hand, we propose to strengthen our great Standing Committees, and give them more real responsibility than heretofore. To this end we have, in exercising our power of appointing additional members to them, placed on each a Vice-President who will represent his own Standing Committee on the Council and support its proposals and reports. The position of Vice-President is one of high distinction and should be fully recognised. The four gentlemen who hold that office take a leading part in the work of the Institute, and there is a corresponding call upon their time. I must rely much upon them for support; as Aaron and Hur held up the fainting hands of their chief, so it is for them to prevent the weakness of their President from becoming too apparent.

**"R.I.B.A."**

This Royal Institute of British Architects to which we belong is a splendid and a famous organisation. It governs practically all properly qualified architects throughout the Empire; there is no other architectural society in the world which approaches it in scope and completeness; it is the envy and admiration of our foreign brethren. Every member may be proud of his allegiance to the Royal Institute; and the measure of his own enthusiasm will be found in the common animation it inspires. That there should be criticism of the Council is right and proper; "a reasonable amount of fleas," said the American humorist, "is good for a dog; keeps him from worrying 'bout being a dog!" But let lookers-on remember that they have freely elected the team which is playing for them; clap their hands for its successes, sympathise in its failures, and encourage it to try again.

For the Council itself stands the great device: *Fais que dois, adviennne que pourra!*

## WAR FACTORIES AND SHEDS— THEIR CONSTRUCTION AND ADAPTATION TO FUTURE NEEDS.

*An abstract of a Paper read before the Royal Institute of British Architects, on 17th March, 1919, by Sir Frank Baines, C.B.E., M.V.O.*

In the limited time at my disposal this evening I can hope to touch only upon a selection of the special war buildings which it was my privilege to carry into execution during the period of crisis from which we are now happily emerging.

The want of national preparedness, which has been frequently emphasised, necessitated the execution of immense building projects in circumstances of unexampled difficulty. What has been described as the British genius for improvisation laboured at this period under necessities of the most desperate order, triumphing, it is true, in the end; but being subjected on all hands during the process to a strain of exceptional severity. Mammoth factories, on sites far removed from sources of labour and materials, had to arise, apparently at a wave of the magician's wand. Sites had to be selected, frequently in the most unpromising situations, and buildings to be erected upon land presenting exceptional natural difficulties—the whole complicated, elaborate, and highly technical problem of factory process and factory allocation, plant disposition and power distribution, railway sidings, fire-retardant services, water supply, sewage disposal, electric lighting, heating, ventilation, refrigeration—all had to be grasped, studied and carried into execution at fever-heat; and, while the problems and difficulties which were encountered look less formidable in retrospect, being surmounted, and were all such as would yield in normal times to routine procedure with which you are all familiar, it may perhaps be no idle enterprise to describe the problems of public service as they arose and the methods adopted for their solution.

Professor Lethaby, who always finds the apposite thing to say, remarked in this room on the occasion of one of his illuminating addresses that the architect and the engineer were clearly called to the reform of one another. It is, I think, abundantly foreshadowed that the closest association and co-operation between these professions will be necessary in the future; and this interdependence is well exemplified in the buildings which I am proposing to introduce to your notice this evening. In the design of modern industrial buildings the contexture of architecture and engineering is closely interwoven, and I take leave to question, with all respect, whether it would have been possible without immense reduction of efficiency and loss of time—which was vital to a nation fighting for very existence—to design these war factories, except in a large departmental office, having on the premises highly-trained practitioners of both professions in the most intimate and constant association.

It should be borne in mind that the work was

generally of a highly confidential character, the processes involved were frequently secret, experimental and excessively dangerous; and the prevailing conditions of the period during which the work was undertaken necessitated bold and quick decisions, vigorous prosecution, and the overthrow of established routine. The organisation and responsibility normally delegated to the contractor had to be shouldered, complex inter-departmental negotiations had to be conducted, bulk materials to be sought for unceasingly, production stimulated, railway traffic to be promoted, miles of sidings to be laid down, and rolling stock to be diverted, routed and purchased. Labour had to be allocated, recruited, conciliated, fed, housed—and withal, the public purse had to be safeguarded. Contracts of all kinds were entered into: and in this connection I may mention that my division of His Majesty's Office of Works achieved a distinction during a period of abnormal conditions in negotiating 350 competitive lump-sum contracts, aggregating to many millions sterling; and 120 competitive schedule contracts amounting to many millions more.

### CLASSIFICATION OF FACTORIES AND SHEDS.

A rough classification of the principal types of factory and shed will illustrate the more important processes and applications involved. Factories were erected for production and purification of the constituents of high explosive, for shell filling, bomb filling, fuse filling, submarine mine filling, gas filling, for the storage of empty shell, filled shell and gun ammunition generally; for box making and repairing, and for salvage; for aircraft and motor assembly; for grain storage, aeroplane testing, rifle testing, timber drying, map printing, and a hundred other industries which arose from the exigencies of war.

The construction, too, was subject to infinite variety—permanent, semi-permanent, and temporary, built with brick, hollow clay-block, concrete slab, steel and timber. One condition alone may be said to have been constant—the desperate necessity for speed.

**AMMONIUM NITRATE FACTORY.**—The first aggregation of buildings to be described was an immense factory for the production of ammonium nitrate, a constituent in the manufacture of high explosive.

The site was about 77 acres in extent and well situate on railway connection with related factories, in a district in which labour for working the factory was readily available.

From a branch railway two connections were made to link up the factory railway system. All the main process buildings are served by this railway, and there is a total length of track, including the marshalling sidings, of 5½ miles.

The general lay-out of the buildings was planned with a view to rapid production and the saving of labour in handling materials.

The construction was of a permanent character, the walls being built of Fletton bricks with stock brick external facings, and timber and steel framed roofs, covered with boarding and slating.

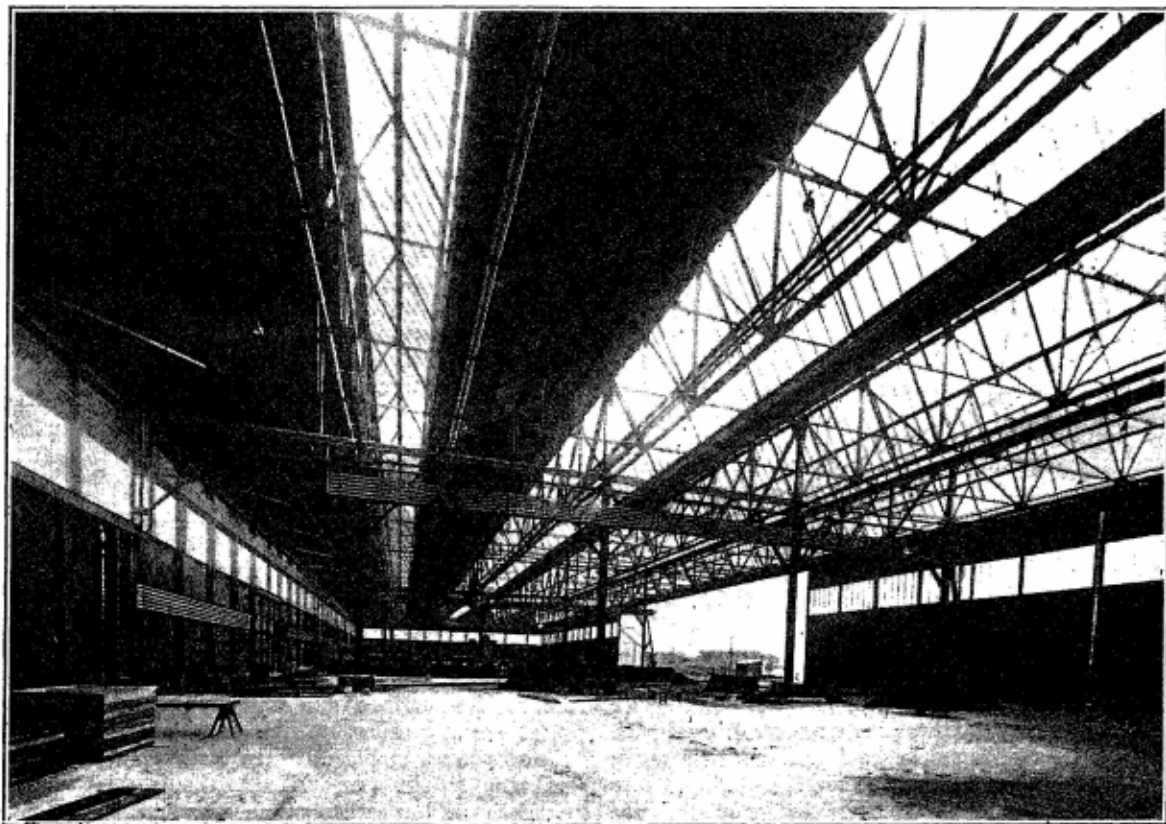
In the design an endeavour was made to achieve a certain degree of architectural character.

A 30-foot road was constructed from the public thoroughfare to a rectangular courtyard, bounded on the east by the administrative offices and on the west by the canteen; a time office and garage being arranged on the northern side, adjacent to the main factory entrance, with a cycle shed on the south. The roadway was continued inside the factory entrance practically due north, and on the east of this roadway, almost centrally on the site, were placed three units, comprising the crystalliser and evaporator houses, with

manufacture of ammonium nitrate, were both situate in a position convenient to the flow of the incoming traffic. On the south-west side of the process blocks a store was built for the finished product, ammonium nitrate: the waste product, sodium sulphate, being conveyed by means of an aerial ropeway to a dumping ground at the southern extremity of the site.

It will thus be seen that the process operations determined the general lay-out of the buildings.

The three stores were similar in construction, each was roofed in two spans of 52 feet, the span supports in the centre, under the trusses, being brick



two mixer houses and a filter house in one continuous block common to the three units.

At the north end of the site the sodium nitrate store was erected in an isolated position, owing to the inflammable nature of the material, and especially of the bags in which the nitrate is brought into the factory. Adjacent to the sodium nitrate store the bag-washing and clean bag store were built, for washing and storing bags in which nitrate is delivered.

On the eastern boundary of the site, adjacent to the process buildings, the store for ammonium sulphate was erected. It will be seen that the sodium nitrate store and the ammonium sulphate store, which contain the two raw products for the

piers. These stores were lined on the inside with blue bricks to a height at which the material was intended to be stacked, this being necessitated by the action of acid contained in the materials.

In the sodium nitrate store upper gangways were formed of reinforced concrete beams and platforms, the material at this store being elevated, distributed by means of barrels, and tipped from the high-level platform.

The roof trusses were composite construction, carrying purlins at about 4 feet centres, boarding being laid direct on to the purlins, and slating upon the boarding. Ample daylighting was provided by both roof and sidelights. The floors, formed of a 6-inch thickness of

concrete on a layer of hardcore, were surfaced with blue Staffordshire tiles laid to falls, channels being provided to collect liquor draining from the stacked material.

The mixer houses were similarly constructed, the span being about 36 feet. Top lighting and open ridge ventilation were provided. The roof trusses were covered with a solution of ammonium sulphate, both as a fire retardant and to prevent impermeation by ammonium nitrate and later were covered with thin metal sheeting, as it was found that flame ascended from the mixer vessels. The best type of roof construction for practically the whole of this factory would undoubtedly have been steel framing, but at the time the factory was commenced the supply of steel was extremely limited, and instructions were issued that timber should be employed wherever practicable. The filter house was of similar construction to the mixer houses, the roof trusses being designed to carry in addition a hand crane capable of lifting 5 tons. The three main blocks were roofed by means of trusses having a span of 52 feet at 16 feet centres, with purlins at 4 feet centres, bearing on the principals, boarding being nailed direct to the purlins, with an external covering of slates. The roof trusses were supported on timber posts, the height from the floor to the underside of the tie-beam being 30 feet. A crane was inserted in the bay through which the railway track passes, no engines being allowed within the building. Roof and side lighting were adopted, and continuous open ridge ventilators. The floor was composed of a 4-inch thickness of hardcore and 4 inches of concrete, covered with  $1\frac{1}{2}$  inch blue Staffordshire tiles, the gutters between the roofs being formed of asphalt, reinforced with expanded metal. Steam for power and heating was supplied by means of 20 Lancashire boilers, having a total capacity of 134,000 to 140,000 lb. of steam per hour. Two brick chimney-shafts were erected to a height of 180 feet from the top of footings, the internal diameter being about 10 feet. The boiler house was covered with a steel bow-shaped roof with a cantilever roof over the coal pits. Coal is taken from the pits by bucket elevators, being tipped into the pits direct from the trucks. As the sub-soil was clay, special precautions were necessitated in order to prevent the drying and consequent shrinkage of the sub-foundation under the flues; this was accomplished by means of hollow terra-cotta blocks, which were laid in such a manner over the concrete raft foundation that the cavities, connected with inlet and outlet flues, formed ducts, a constant current of air being thus maintained. Over these hollow blocks a layer of sand 3 inches thick was laid on which 3-inch fireclay slabs were bedded. The boiler feed was connected with the fire-main supply, which was installed with a catch-pit and pumping house by the side of the canal, distant about a mile from the site.

The main pumping plant for the whole of the system consists of 9 vacuum engines, steam driven and water cooled. These were erected in a building just north

of the boiler house, which also contained a workshop and stores. Two cooling towers were erected north of the stores. An important point in the arrangement of the plant was the duplication of all principal pipe-lines, which was necessitated owing to the liquor deposit choking the pipes: by this duplication overhauling was facilitated and continuity of output ensured.

**NATIONAL FILLING FACTORIES.**—The national filling factories were erected for the purpose of filling shells, cartridge cases, detonators, primers, fuses, tee tubes and other small shell components.

**Sites.**—The selection of sites was governed principally by:—

1. Isolation from population centres.
2. Ample main line railway service in communication with:—
  - (a) Projectile, high explosive and purification factories.
  - (b) Export ports.
3. General levels of ground.
4. Other general conditions usually associated with large undertakings, such as sewage disposal, water supply, proximity to main roads, etc.

**Lay-out.**—Large site areas were required in comparison with actual working floor areas, on account of the necessity for isolating danger buildings, magazines, etc. The minimum distance, for instance, for unrevetted magazine being 100 yards from the nearest building, so that for a large number of magazines, whether revetted or unrevetted, a huge area would be required.

**Time of Erection.**—Time was always the essence of the contract. In some cases the buildings were filling within five to six weeks from commencement of erection.

**Labour.**—At the time very little organisation existed for the transfer of men in large bodies from one part of the country to another. The Munitions Labour Regulations were not fully known or in complete working order. Strikes were frequent, and in cases where sufficient men were unobtainable, military labour was utilised, the working parties consisting of low category men, very few of whom had ever done similar work before.

**Types of Buildings.**—Buildings associated with filling factories can roughly be divided into danger and non-danger buildings. The former include magazines and working rooms, and the latter administrative buildings, messrooms, power houses, etc.

An important feature of all the factories were the change rooms, where the workers change their ordinary apparel for working clothes and are deprived of matches and smoking materials, and in some cases of keys, knives and other metalwork likely to cause a spark. At a point in these change rooms is a barrier where the workers change their shoes before going on to the clean platforms which connect all danger and working buildings.

In the case of isolated danger buildings where it



would have been too expensive to run special cleanways, small cubicles were constructed at the entrance, in which workers change their shoes before entering the building.

**Railway Facilities.**—Connection was made with the main line and sorting sidings, and a broad gauge railway laid down wherever possible to facilitate handling of the traffic; a loop or complete circle of broad gauge railway was included.

**Truckage Systems.**—These were laid directly on to the ground and in cuttings or embankments or on elevated platforms, constructed either entirely of wood or of timber on concrete or brick piers.

In danger buildings and working areas the rails were almost invariably of gunmetal or hard wood, and no considerable gradients were admissible in such sections because of the danger attending runaway trucks containing explosives.

**Sewage Disposal.**—Sewage disposal plant was

The asphalt for floors was of a special gritless composition, particularly in amatol factories, where special precautions were necessary.

**Fire-Fighting Resources.**—Special factory fire brigades and patrols were formed, and each room equipped with water and sand buckets and extinguishers; in some cases it was necessary to provide considerable storage of water, for which purpose reservoirs were constructed, a disused quarry being lined and utilised in one instance.

**A NATIONAL FILLING FACTORY.**—The site of the factory next described is approximately 1,200 acres in extent, a factor in the selection being the presence of large beds of gravel requisite for the work of construction.

The factory as a whole consists of three distinct sections, namely: the amatol factory, which comprises seven units, on the south side; the picric acid (lyddite) factory on the north side; and the expense



necessary at most of the National Filling Factories. In a few cases only was it possible to connect to existing drains of local authorities.

**Water Supply** was obtained (1) from local authority; (2) From wells bored on the site, or upon adjoining sites.

**Lighting and Power.**—Was obtained: (1) From local authorities, which very often involved a long and expensive cable; (2) From independent plant at factory.

**Special Finishings to Buildings.**—In buildings handling fulminate of mercury and other high explosive it was found advisable to cover the walls and ceilings with white enamelled cloth, which would retain no dust and could be easily washed; while where the use of paint or varnish was necessitated, it was essential that the material should contain not more than 3 per cent. of lead, no lead or zinc base paints or lime washes being admissible in picric acid sections.

In some factories, especially in picric acid sections, gunmetal fittings were used throughout. Linoleum or cork carpet was laid on the floors of workrooms and corridors and coved skirtings were adopted.

A.O.D. stores on the north-east side of the site; with reserve A.O.D. five miles away. Administrative offices, messrooms, boiler houses and workshops are situated on the main factory road, which intersects the site and separates the amatol and picric sections.

The workpeople are conveyed to the site by a special service of trains, a station being built on the site between the two sections of the factory.

In connection with this factory another depot, devoted to A.O.D. storage purposes, was constructed about six miles distant. This depot covers an area of 300 acres, with a length of railway about seven miles.

Dealing with the various sections of the factory in detail:—

**The Amatol Section.**—A special feature of this site, which is approximately a mile and a half in length by three-quarters of a mile in depth, is that the fall of the ground was only about three feet in both directions, the main cleanway through all amatol units being  $1\frac{1}{2}$  miles long.

The section consists of seven distinct units, ranging from west to east, the first unit on the west side, and the remaining six being coupled up in pairs.

This section of the factory is entered from the south off existing main road.

The main entrance block comprises labour exchange, time office, cycle stores, lavatories, police and fire offices, etc.

The workpeople, after depositing all articles of contraband at the main entrance, pass through turnstiles to the time office, where they are "clocked in," and thence proceed to the changing rooms, where they assume their factory clothing.

All the process buildings of the seven units are approached through the change rooms to the two main cleanways, which are covered in, one on the north side of the press house, and one on the north side of the amatol shell store, with various connecting cleanways from these two main thoroughfares.

Off the cleanways are lavatories, ambulance rooms and small buildings for the use of the foremen and inspection officers. The six units, which are coupled in pairs for H.E. feed, are all trucked on the continual process.

The process is briefly as follows:—

Trucks containing H.E. ingredients—T.N.T. and ammonium nitrate—are shunted from the main line sidings to expense stores and reserve stores on the south side of the amatol factory, and ammonium nitrate is delivered to the four stores between the empty shell stores.

The ammonium nitrate is stored in bulk in the ammonium nitrate store, between the amatol shell stores, in bins having walls formed of blue brick. Ammonium nitrate is conveyed from these stores on trolleys into the dryer and crusher houses.

Each of these houses is approximately 62 feet by 28 feet and double storeyed. Ammonium nitrate is placed on hot plates where it is broken down, and thence is tipped into a large hopper, whence it is conveyed by a bucket-elevator up a shaft into a large cylindrical rotary dryer. From the rotary dryer the ammonium nitrate is taken up to the first floor through the heater, and from the heater the material passes through a magnetic separator, which abstracts all metallic particles. From the separator the material discharges into an automatic weigher. Automatically weighed charges of dried ammonium nitrate are then conveyed to the incorporating house, where they are mixed with trinitrotoluene.

The T.N.T. is brought from small stores situate between the transit houses. Outside these stores, in a portion of the cleanway which is enlarged, the T.N.T. is automatically weighed and brought along the cleanway running south towards the incorporating house, being deposited side by side with the dried ammonium nitrate. These two materials are then placed into the hooded rotary incorporating mills in the proportions of 80 per cent. of ammonium nitrate to 20 per cent. of T.N.T. The mixture is ground for about twenty minutes, after which it is conveyed to the end of the press houses east and west of each incorporating house. It will be seen therefore that

each ammonium nitrate expense dryer, T.N.T. expense crusher, and incorporating house serves two press houses.

The material is deposited at the end of the press houses preparatory to being filled into empty shells. The empty shell stores are each 351 feet by 121 feet, under one span, and 12 feet high to the under side of the roof trusses. Each store is designed with north light trusses, spanning the shorter transverse direction of the building, namely 120 feet. Thus the whole area of the empty shell store is roofed without any intermediate stanchions. Large spans are greatly to be preferred to spans requiring intermediate supports. The amount of steel used in such a construction is not appreciably greater than with smaller spans and intermediate stanchions. The walls to these stores are composed of 4-inch hollow terra-cotta blocks, limewhited internally and rendered externally in cement. The floors are of 8-inch concrete on gravel filling.

Railway access is provided at the south end of each store, so that the empty shells can be unloaded under cover. The general floor level of the stores is about two feet below the level of the trucks.

The shells are unloaded from the trucks by gravitation, sloping boards being laid between the floor of the truck and the floor of the shed, and are piled at the foot of the slope in stacks, arranged back to back. Shells are handled from these stacks by means of overhead runways, of which sixteen are provided in each store, the system converging into eight in the centre.

When the shells are picked up from the stacks they are then conveyed to the painting tables in the centre of the buildings. Here the shells are examined, cleaned, painted, marked with the factory number, and dried by hot-air ovens. After passing over the painting tables, where they are rolled along, they are again picked up by the runways and deposited in stacks similar to those at the southern end. From the stacks they are taken over the barrier which marks the division between the clean and the dirty ways. Here the shells are again examined, partly filled and rammed, and the exploder cases placed in the nose of the shell, after which they are trollyed to the press houses for filling.

The shells enter the press houses by connecting cleanways at that end where the amatol enters from the incorporating houses. The press houses are each about 360 feet by 60 feet wide, and 11 feet high.

Amatol, from the incorporating houses, is conveyed up a platform between the extrudo chambers. From this platform the amatol is deposited through shutters to the extrudo machines. The shells are conveyed by trolley direct into the first set of extrudo chambers, where the shell is roughly filled with the amatol mixture. The shell is then conveyed on to the second set of extrudo chambers, where the amatol is further pressed by means of screw filling. The shell is then conveyed on to the press chambers, where the amatol

is packed into the shell at a pressure of 100 tons per square inch. The shell is passed through two such presses, from whence it is conveyed to the benches at the north end of the press houses. At these benches each shell is sealed by T.N.T., heated at the oven which is in the centre of the northern end of the press house, after which the exploders are inserted into the case, and the shell then passes out into the transit house.

The press house is constructed with concrete floors covered with asphalt, brick walls, steel trusses at the north and southern ends in a single span in the centre portion of the press house where the heavy press units occur. The roof is formed of hollow terra-cotta blocks covered with asphalt. The extruder chambers were built of brickwork 18 inches thick with cement walls, a certain amount of danger being involved in the process of filling the shells at this point. The heavy press units in the centre, where the shells are pressed at 100 tons per square inch, form, perhaps, the most dangerous part of the process in the whole of this section. Accordingly, special methods were adopted to minimise the risk, and for this purpose a circular chamber, reinforced to withstand a pressure of 80 lb. per square inch was constructed. The hydraulic presses in each chamber were sunk below the floor level, and the whole of the chamber, under the presses and up to the height of the roof, was reinforced.

Over each of the chambers a very light glazed roof was constructed, but not tied down to the walls of the chamber, so that should an explosion occur a minimum of resistance would be offered by the roof. Very strong doors, operated by special hydraulic gear, were provided at the entrance and exit end of each press house.

The last of the main process buildings in the factory are the transit sheds. These are of similar construction to the empty shell stores, consisting of steel north-light trusses in a single span, and hollow-block walls, limewashed internally and plastered externally, a main gauge siding serving the north end of the building. Shells are brought into the transit sheds from the press houses, where they are deposited at the southern extremity on end and weighed, after which they are taken over the barrier by overhead runways and again marked, checked, and stacked, or taken direct on to the grummitting tables. After the shells are grummitted, they are taken up the sloping ramp, loaded into main gauge trucks and taken to the A.O.D. stores or other destination. Between the first and second units and the fifth and sixth units are sling stores; in these the grummits are stacked and distributed to the transit sheds as required. Between the third and fourth units is a small building designated "Components"; in this building are stored the exploder cases, plugs and all other composite parts, which are distributed to the southern end of the press houses.

Between the third and fourth and fifth and sixth

empty shell stores are bonds and the accumulator for supplying hydraulic pressure to the press houses.

Separate systems of drainage were adopted, one of the difficulties in dealing with the drainage on the amatol site being to find an efficient filter for abstracting T.N.T. from the washings from the lavatories and laundry, which clogs the percolating filters in a sewage disposal scheme. Efficient filters were finally constructed of small acetylene tanks, from which water was filtered, first through coke-breeze and then sand; the T.N.T. which collected on the acetylene tanks being then collected, and the coke-breeze and sand forming the filter being frequently renewed.

*Picric Section.*—The picric acid is shunted in trucks from the main line to the picric acid bondage stores and picric acid expense stores, thence along cleanways to the unheading houses, where the boxes are opened and the loose picric acid is conveyed to the sifting houses, from thence to the melt houses, and, when melted, to filling houses, where the shells are filled and conveyed to the transit houses, in which they are examined and the exploders inserted. After which they are taken away to the A.O.D. stores.

The empty shell stores and transit houses are constructed exactly as those already described for the amatol section.

The picric acid stores and picric acid bondage stores consist of a row of 16 and 24 separate compartments, respectively 16 feet by 10 feet, and 9 feet by 8 feet, divided by 9-inch brick walls, which project 2 feet 3 inches beyond the outer walls each way, and are taken up to the roof for fire protection.

The floors are of gritless asphalt on concrete and brick filling, the outer walls being of wood framing, weather-boarded on the outside and lined inside, with a door placed centrally leading to the platform and thence to cleanways, with ventilating fanlights over the doors and ventilators in the roof.

The roof is of boarding covered with corrugated iron, and is continued over the external platform.

The smaller houses—namely, the unheading, sifting, melt and filling houses—are constructed of wood framing, weather-boarded outside, on brick foundations, with a corrugated-iron roof, lined inside with asbestos-cement sheeting. All are well lighted and ventilated by casement windows and roof ventilators to each compartment.

Artificial electric lighting is effected from the outside, the lamp being protected by a fireproof outer case of glass.

The construction indicated applies throughout to the whole of the stores, ambulance, laundry, and other buildings, the wood boarding outside being solignummed and the doors and windows painted.

*Changing Rooms.*—Changing rooms are constructed as at the amatol section, namely, timber truss construction on 1 foot 10½ inch by 13½ inch brick piers, with hollow-slab filling; wood floors on sleeper walls; slated and boarded roofs, long louvre ventilators at the ridge; roof glazing and casement windows, top



hung; the centre portion of the building acting as a kitchen and servery furnished with hot cupboards and sinks in counter. The two main portions of the building at the ends are equipped with tables and chairs.

**Boiler House.**—The boiler house accommodates 10 boilers 30 feet long and 9 feet diameter, and is built of 13½ inch and 9 inch brick walls with steel stanchions at 12 foot 6 inch centres; segmental steel roof of corrugated iron, having iron windows in each bay, with centre swing casements.

**Cleanways.**—All the cleanways to the picric section are constructed of wood framing on 9 inch brick foundation walls, open from sill to roof, with corrugated iron sheeting placed vertically on the outside

The filling shops consist of four units of buildings, four buildings in each unit 232 feet long and 50 feet wide and 13 feet high from floor to eaves level, constructed with north-light roofs. The buildings of each unit were connected with a corridor 20 feet wide, the buildings being divided into eight shops of 100 feet by 50 feet to each unit, the united works being connected by clean platforms and approached only through a changing room, fitted for 8,000 workers, with a clean and a dirty side. The workers here change their ordinary outside wear to the special boots and overalls worn in the factory.

Various subsidiary buildings, powder passages, etc., were approached from the clean platform, and consisted of offices, general store, men's and women's

last range of main shops is constructed with brick base and walls of timber-framing covered externally with weather boarding and felted and lined internally with asbestos-cement sheets. The whole of the roof trusses are of timber, the roofs being in two spans of 25 feet and slated externally and lined internally with asbestos-cement sheets. The north lights are glazed with patent glazing, and extend the whole length of the shops in every case.

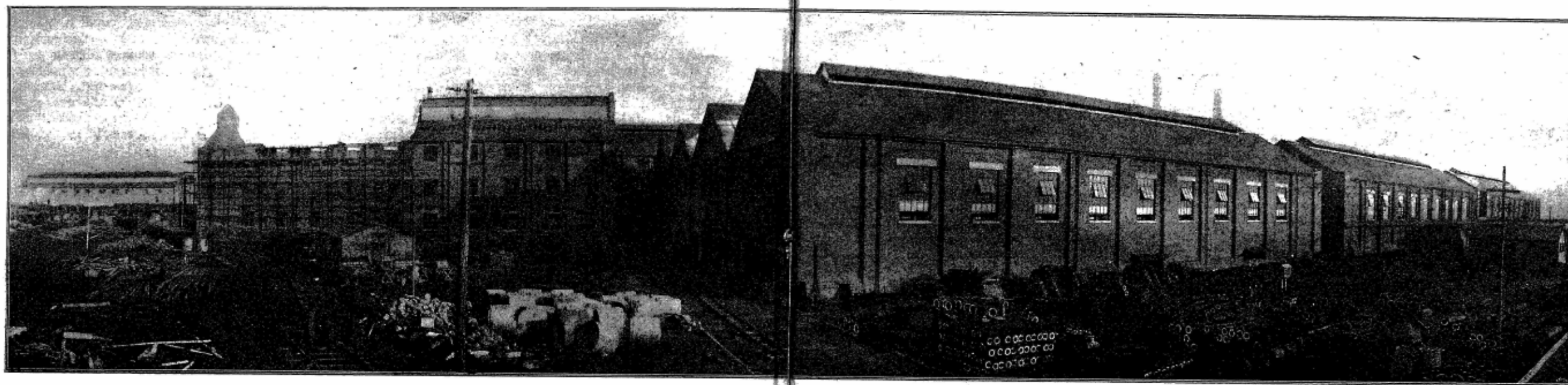
The floors of the shops are constructed with wood joists, carried on brick piers, with timber binders, specially strengthened where necessary to carry heavy machinery.

The trolley tracks are carried through the main passages, with turntables and tracks leading into each

are completed by the passage through one unit of shops, from which the assembled fuses are conveyed on trolleys to the packing rooms and bond stores.

**DETONATOR SECTIONS.**—These buildings, which are of a very special type, were constructed for a highly dangerous operation; the filling of petrol pellets to detonators. The site is immediately adjacent to the 80 fuse filling factory.

The detonator buildings are of brick, of solid construction and revetted all round; consisting of fulminate drying rooms, press rooms, rumbling and detonator magazines, and detonator drying rooms, together with varnishing and inspection rooms, and fulminate working rooms. The windows are placed immediately under the eaves, and the roofs are of the



of framing below sill level, and with segmental corrugated-iron roof.

The floor is of 7 by 2 wood, open-jointed for ventilation.

The amatol cleanways are all covered in. The main cleanways are 15 feet, 8 feet and 6 feet wide respectively, constructed of rough wood framing, weather boarded; the roof of segmental corrugated iron, the window casements top hung.

The intersecting parts of the cleanways and portions at intervals between are of fireproof construction and provided with fire-escape staircases.

**80 FUSE FACTORY.**—This factory was erected for the purpose of 80 fuse filling and assembling, on a site adjacent to an existing engineering works, as an addition to a factory then being erected for the filling of the 100 fuse, both of these fuses being made by the engineering firm, thus obviating an immense amount of handling and carriage.

lavatories, small magazines, mixing and drumming shops, testing rooms, bond stores and packing rooms. All the small magazines were surrounded by revetments constructed of timber filled in with earth up to an average height of 15 feet.

The main magazines were sunk and covered on top with 5 feet of soil, being ventilated by means of brick ducts to the open air.

The main shops were constructed on four different systems, in order to spread the work over as many trades as possible; one range of shops being constructed with brick walls and piers rendered externally in cement. The second range is constructed with a brick base to the floor level and hollow terra-cotta block walling above in two thicknesses, between brick piers, the whole being rendered externally. A third range is formed of breeze concrete slabs between brick piers, rendered externally in cement, and plastered internally in hard plaster. The fourth and

shop, the rails being formed of teak battens flush with the floors. The main trolley tracks on the clean platforms are of iron.

The bond stores were built with floors capable of carrying a load of 15 cwt. per square foot, and are similar to the main shops in construction.

All the subsidiary buildings are constructed with brick piers and timber framed and weather boarded structures. The mixing and drumming shops are of brick, and the roofs of magazines of reinforced concrete.

The main magazines are of brick with reinforced concrete arched roofs, the whole covered with asphalt inside and out.

The clean platforms are formed of brick piers and timber framing, and covered in on top only with curved corrugated sheeting.

The shops are designed so that the filling and assembling follow on, and the whole of the operations

lightest possible construction in order to localise the damage as much as possible in the event of an explosion.

Several of the buildings are divided into compartments where not more than two persons work at a time.

Bond stores of brick construction of a capacity requisite for the factory are erected in conjunction, and main magazines, similar in construction to the 80-fuse factory magazines, are provided.

All the buildings and magazines are approached by means of clean platforms and railway sidings, and platforms adjoin the bond stores.

**AMMUNITION STORES.**—When the National Munitions Factories were properly started, it was found that their productions were so huge that whenever there was any dislocation of traffic the output could not be cleared, and the accumulation of ammunition at the factory became serious in the course of a few



days. Great danger attended the storing of considerable quantities of ammunition in a factory, as the risk of explosion was thereby increased. It was therefore decided to construct large ammunition storage depots at various points on the route from the factory to the port of embarkation, so that in the event of any dislocation of traffic, such, for example, as the blocking of the Channel by submarine activities, ammunition could be stored until required in the fighting area.

These depots were also required for storing ammunition when the factories were producing in excess of the rate of consumption at the Front, and they thus formed a reserve of shells and ammunition ready for any offensive.

One such depot, for example, occupies a site of about 1,000 acres, and consists of 65 large storage buildings and 35 miles of standard gauge railway.

As the depot was intended for post-war use, the buildings were constructed in a permanent manner with brick walls and concrete floors. Owing to the shortage of bricks, in the latter portion of the work the concrete blocks made by prisoner of war labour were utilised.

The buildings are each about half an acre in area and of one storey, being placed at safe distances apart of about 200 yards.

North-light roofing was adopted; and owing to the shortage of steel it was found necessary to construct the roofs of timber and steel.

A power house was erected for the supply of electrical power for the whole site, together with miscellaneous buildings, such as locomotive sheds, etc.

Camps were erected to accommodate the personnel of the Army Ordnance Corps, who took over the sections of the depot as these were completed.

**AN AIRCRAFT SHED.**—The erection of this shed for the purpose of assembling planes was necessitated by the large extension of the aircraft industry.

The building is 600 feet by 420 feet, and north-lighting was adopted in order that the planes should not be in any way affected by strong rays of sunlight. The shed was so designed that the planes could be wheeled out ready for immediate flying.

In order that the full area of the shed could be utilised as economically as possible internal stanchions were eliminated and the shed was planned with fifteen longitudinal and four transverse bays, making the clear sizes of each bay 105 feet by 40 feet. At the time the shed was erected it was thought that 105 feet would be sufficient clearance for the largest plane likely to be built, permitting a plane with 120 feet spread over the wings to be manipulated by wheeling out sideways.

The shed was divided by a 13½ inch brick wall, the northern half being raised 2 feet 6 inches above the southern half, owing to the fall of the site.

The area of the shed is approximately six acres, and the number of intermediate stanchions for supporting the roof only 42.

The steelwork was designed with 105 feet span lattice girders incorporating the north-light outline. These main girders were 40 feet apart, and were spanned between by 40 feet span ridge girders. Over the ridge girders were placed intermediate north-light trusses at 10 feet centres. The stanchions at the walls were kept free, and these stanchions were braced in two bays only.

Wind bracing to roof was inserted at the ends of the building.

The whole of the roof was covered with boarding nailed to wood purlins fastened to the backs of the intermediate trusses and main girders. The boarding was covered with slating, and the gutters were formed of asphalt reinforced with expanded metal laid on felt. It is worth noting that in the immense run of asphalt gutters, each of which is 600 feet long, no indication of leakage has yet appeared, in spite of the fact that there must be a certain amount of expansion and contraction in such an area of steelwork.

The steelwork has been designed for a safe load of nine tons per square inch in tension and eight tons in compression.

The whole of the floor of the shed was covered with 6-inch concrete, spade finished on hardcore, with the exception of 40 feet inside the west end, which is reinforced to carry lorry traffic.

The sliding doors at the west end are a special feature. They have been designed so that any one of the 105-foot spans can be completely opened, and were so arranged that the doors of one span could slide in front of those adjacent.

**Heating.**—The whole shed is warmed by a system of low pressure hot water, circulating through approximately 7½ miles of piping and radiators, maintaining a temperature of 60° when freezing outside. The amount of water circulating through pipes and radiators being 40,000 to 50,000 gallons an hour, which is accomplished by means of electrically-driven centrifugal pumps of 10 h.p. The hot water is generated by nine large cast-iron sectional boilers in the boiler house adjoining the shed. The coal consumed averaging about half a ton per hour in coldest weather.

**Lighting.**—Lighting is by means of 300 candle-power incandescent electric half-watt lamps suspended from the roof. Current taken from the Electric Supply Co's. main through a transformer on the adjoining premises.

**Fire Protection.**—The whole of the shed is protected from fire by a system of automatic sprinklers operating on the wet system. There are about 2,500 of these which automatically come into operation on the outbreak of fire, at the same time giving alarm. In addition to the sprinklers, there is a system of fire hydrants inside and outside the building.

The whole of the fire service is supplied with water from the company's main, and there is also a large storage tank of 30,000 gallons capacity specially provided to feed the sprinklers. When the automatic alarm goes off the system can be applied directly to

the 6-inch supply main, which has a pressure of 180 feet head of water.

The total cubic content of the buildings is approximately 8,000,000 feet, and the cost 3·5 pence, or with engineering services, 4·25 pence per cubic foot.

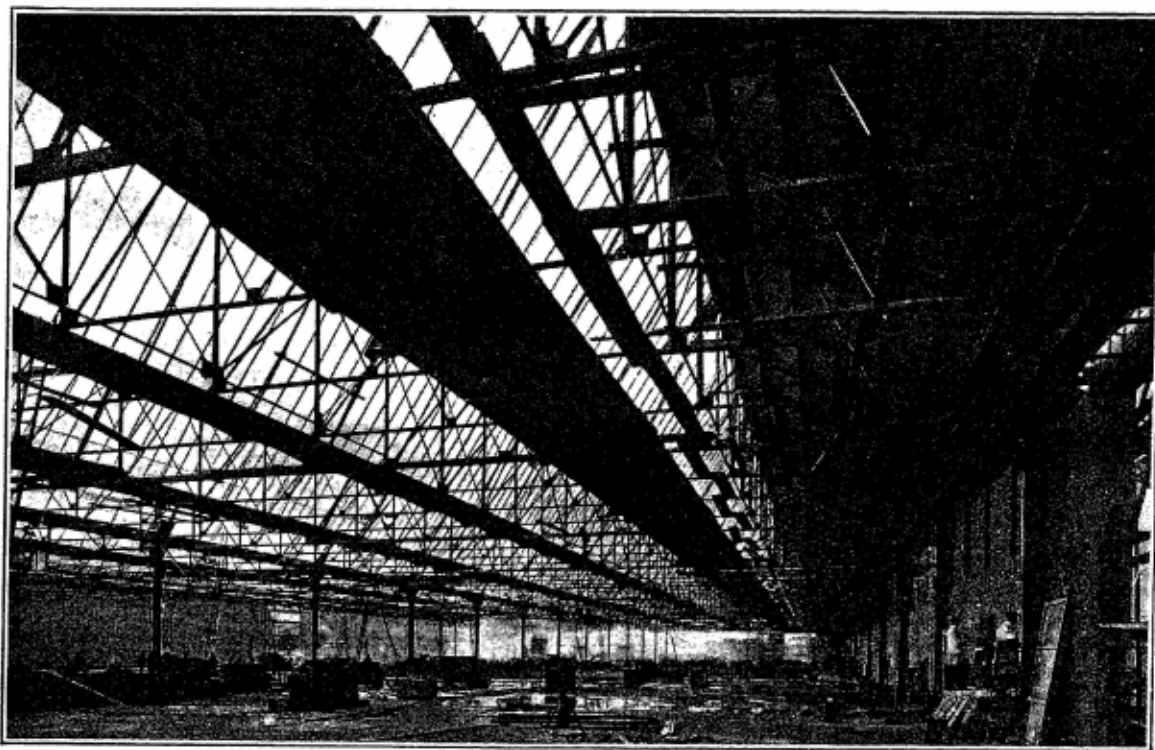
**A FLYING BOAT SHED.**—This shed was erected for the assembling of new flying boats, which were being built by a firm at works adjoining the site.

The site comprises a small estate and part of the mudlands adjoining with a water frontage. Access is by water road and rail station about seven miles distant.

The actual position of the shed was decided upon with due regard to the enormous amount of ground

struction of the largest-sized flying boats, leaving a margin for development in the machines of the future.

On the north side sliding doors were provided along the whole length of the shed, twenty in number, each approximately 25 feet wide and 35 feet 6 inches high, and weighing approximately 6 tons. These doors are supported on two ball-bearing wheels, with four guide wheels at the tops running in a top guide. The doors run very smoothly, and, despite the great weight, can be manipulated by one man, being so arranged that a clear opening of about 275 feet can be obtained. On the south side there are four pairs of sliding doors in two sections, of similar type, but smaller in size, being 20 feet by 15 feet, the opening being 30 feet by 20 feet.



work that was necessary. Practically the whole of the site was liable to flooding at high tide, and the floor of the shed had to be kept up at a level to ensure practical immunity at the highest tide.

The buildings consist of flying boat shed, boiler, power and pump houses and lavatory blocks, with a fire service reservoir for emergencies. A large expanse of marshalling platform being provided on the water frontage, and a slipway projecting therefrom into the water for a distance of 500 feet.

The shed is 500 feet long and 153 feet wide, and was constructed entirely of steel, and designed in such a manner that there were only nine internal stanchions, the roof being arranged on the north-light principle, the main spans being 100 and 150 feet respectively. These large spans were necessary to enable the con-

The floor space of main shed is 77,250 feet super, and the marshalling platform has an area of approximately 90,000 feet super, that of the slipway being approximately 18,000 feet.

The floor of the shed and marshalling platform was constructed for the major portion of the site on solid filling obtained from the adjoining mudlands, but for a portion of the east end of the shed and marshalling platform piers formed of reinforced concrete tubes filled in with concrete and taken down to ballast, carrying steel girders and a reinforced floor, were used, as the amount of filling would otherwise have been excessive.

The concrete floors throughout the shed and platform (except to east end, where steel-framed floor and filler-joists are used) are reinforced with steel wire

mesh, and have been designed to carry a cart load of three tons.

The slipway was constructed throughout on piers formed of reinforced concrete tubes, filled in with concrete and taken down to ballast. These tubes are placed at 16 feet centres, and carry transverse girders, upon which are placed longitudinal girders running the whole length of the slipway. The floor of the slipway was formed with reinforced concrete blocks, the end being let into the flanges of longitudinal girders; these blocks are laid herringbonewise, and are spaced with a clearance of  $\frac{1}{2}$  inch between each pair of blocks. The slipway is laid to a gradual slope, the last 20 feet dipping at a slightly steeper incline, to facilitate the launching of boats at low tide.

Elm fenders were bolted to the sides of the outside joists for the whole length of the slipway.

The boiler house motor and pump house are built of stock brick, with concrete floor and roof, and the chimney shaft is of brick. The power house was built as an extension of the existing power house belonging to the firm whose premises are adjacent, and is of similar construction, with steel roof trusses and corrugated-iron roofing.

Lavatory accommodation was provided for 700 men and 500 women, the sewage being collected in a sewage tank adjoining the land block, and the effluent carried away in pipes slung under the slipway, discharging into the water. Provision has been made for pumping and carting away sewage.

The pump house for fire services is situated next the tidal basin, and is of brick construction. A fire service reservoir with a capacity of approximately 59,000 gallons for the impounding of tidal water is also provided.

The walls are constructed of concrete slabs filled in solid with concrete, the piers in the reservoir being reinforced concrete tubes filled in solid with concrete. These piers carry the steel-girder framing supporting the reinforced concrete roof.

The reservoir is open from a height of 5 feet 6 inches along the whole front to the water, and can be filled at each tide, and emptied by means of a Penstock valve for cleaning purposes.

(To be continued.)

#### The Central Consultative Board: Housing in the London Area.

The Central Consultative Board, the functions of which are explained in the President's letter on page 241 of this number, has held several meetings, and the formation of the Register of architects is actively proceeding. A number of local authorities have accepted the Board's offer to nominate architects for employment on their housing schemes. The following members have up to the present been nominated by the Board:—

*As Consulting Architects.*—Mr. C. H. B. Quennell [F.], Mr. M. S. Briggs [F.], Mr. J. S. Gibson [F.], Major Maxwell Ayrton [A.], Lieut.-Col. Peter Fry, D.S.O., C.M.G. [Lic.].

*As Executant Architects.*—Lieut.-Col. S. W. Cranfield [F.], Mr. R. G. Muir [A.], Mr. R. M. Pigott [A.], Mr. H. F. Murrell [A.], Mr. Anthony Wilson [Lic.], Mr. Joseph Hill [A.], Mr. A. H. Brownrigg [A.], Mr. Horace Cubitt [A.], Mr. Basil Sutton [A.], Major W. L. Lucas [F.], Mr. J. Gordon Allen [F.], Mr. F. Winton Newman [F.], Mr. F. Chatterton [F.], Mr. A. J. Healey [F.], Mr. W. E. Watson [F.], Mr. J. H. Belfrage [A.], Mr. T. Spencer [A.], Mr. H. J. Birnstingl [A.], Mr. G. Berkeley-Wills [A.], Mr. J. H. Worthington [A.], Mr. W. S. Grice [A.], Mr. Leslie Moore [A.], Mr. Harold Dicksee [A.], Mr. W. Harding Thompson [A.], Lieut.-Col. W. G. Newton [A.], Mr. George Nott [A.], Mr. Leslie Glencross [A.], Mr. H. A. Welch [A.], Mr. A. G. R. Mackenzie [A.], Mr. H. J. Chetwood [A.].

All the architects nominated as executants have served in H.M. Forces in the course of the war.

#### The R.I.B.A. Scale of Fees for Housing.

On the advice of the Board the Council have been in consultation with the Ministry of Health, the Board of Agriculture and Fisheries, and other Departments concerned, on the subject of the scale of fees for housing work. Dr. Addison, the Minister of Health, and Sir James Carmichael, the Director of Housing, have received deputations from the Board, and an agreement has been arrived at under which the special R.I.B.A. scale of fees for housing has been accepted, with some slight modifications, by the Departments concerned. In the next number of the JOURNAL the details of the agreement arrived at will be published in full.



9 CONDUIT STREET, LONDON, W., 23rd August 1919.

## CHRONICLE.

### The Unity of the Profession.

At the first meeting of the new Council the following Resolution was passed by a unanimous vote:—

"The Council of the Royal Institute is determined to make a further effort to unify the architectural profession and is about to consider the best means of attaining this object."

### The R.I.B.A. Record of Honour: Sixty-fourth List.

#### Military Honours.

REAVELL, Lt.-Col. G., T.D. [F.]. Awarded the O.B.E. (Military Division).

HALL, Lt.-Col. ALNER W., 28th London Regt. [A.]. Awarded the Military Cross.

# The Royal Academy Exhibition : Regulations for 1920.

The following letter has been received from the Secretary of the Royal Academy :—

*Royal Academy of Arts, Piccadilly, London, W.1.  
9th July, 1919.*

DEAR SIR,—I am desired by the President and Council to communicate to you for the information of the Royal Institute of British Architects the following Regulations which will come into force for the Exhibitions of 1920 and after :—

"Small photographs of not more than 'half-plate' size and only in connection with working drawings (inset in the frame) are admissible for the Architectural Room.

"Good geometrical drawings of moderate size are desirable.

"Architectural drawings which are the work of an artist other than the designer must have the name of the draughtsman clearly inscribed on the mount, but this name will not be included in the catalogue."

Yours faithfully,

W. R. LAMB, *Secretary.*

The Secretary,  
Royal Institute of British Architects,  
9 Conduit Street, W.1.

## The Godwin Bursary.

The Council have awarded the Godwin Bursary and Wimperis Bequest for 1919 to Mr. H. Austen Hall [F.]. Mr. Hall is about to make a tour in the Eastern cities of the United States and will prepare a report on modern stores and shop buildings under the terms of the Bursary.

## The National Housing Scheme.

The following letter from the President appeared in *The Times* of the 23rd July :—

### THE NEW HOUSES: ENCOURAGEMENT OF GOOD DESIGN.

21st July, 1919.

SIR,—To no country in the world has there come so lovely a heritage as that which England possesses in her ancient villages. The treasure lies broad and free to all, the equal delight of rich man and of poor; and it is now in danger of irreparable damage. Local authorities are being urged to increase the housing in their districts, and, careless themselves, sometimes quite ignorant, of the beauty of their inheritance, they too often allow the work to fall into incompetent hands. The charm of a village results from subtle combinations of form and colour, often the work of time; and the risk of its impairment by injudicious changes and additions is increased by the abridged procedure under which schemes may be approved without being first examined by the very competent headquarters staff of the Ministry of Health.

Indifference on the part of housing authorities to æsthetic value not only diminishes the national amenity, but does a double wrong to the State, which has provided work proper for its demobilised architect sons, yet sees them still without employment. I appeal for these young men. No profession has suffered from the war as theirs has done, and hundreds who left their hard-won practices to join the Colours have now returned to find the building industry paralysed and

themselves idle. In normal times new opportunities might come to them by way of public competition but this method is inadvisable for housing schemes, since it involves delay and waste of much effort needed for immediate progress. The Central Consultative Board of the Royal Institute has therefore established a register of its qualified members and licentiates, and is prepared not only to nominate architects, but to advise both them and housing authorities who accept the nominations in the preparation and execution of their projects. The policy adopted is to distribute the work widely, so that many may be employed and monotony of design avoided. For every considerable scheme several junior executants (those with war service having priority) are appointed, under the general direction of a senior superintending architect; fees, according to a special reduced scale, being divided by the whole group.

In the design of small houses the felicitous tradition of our English architects is acknowledged by the artists of every country, and their thorough practical training is a national asset which should be fully utilised. We cannot compel the employment of our skilful artists, but it is due to the Government to point out that they encourage it, by allowing their modest fees as part of capital cost. Time is very pressing. The country's need must be met; and if housing authorities delay too long Wessex and the Cotswolds, the Weald and Derbyshire, will be covered with the sealed patterns of soulless officialism.—I am, Sir, your obedient servant,

JOHN W. SIMPSON, *President, R.I.B.A.*

## The "Daily Mail" Ideal Home Exhibition.

The *Daily Mail* Ideal Home Exhibition will be held at Olympia from 4th February to 25th February 1920. In consequence of the greatly increased importance of the housing question, the Exhibition has been extended to three weeks instead of the usual two.

Workers' ideal cottages, according to the designs which won the £500 prizes in the recent *Daily Mail* Architects' Competition, will be shown.

Amongst many other features of interest, details of which will be published later, great prominence on this occasion will be given to labour-saving in the home: An important effort is to be made to realise a home in which domestic work is reduced to a minimum. Both the public and architects will be invited to co-operate in this effort at an early date.

For the benefit of housing committees of local authorities, public utility societies, borough engineers, and others concerned in the problem of housing the workers, three books of the best designs entered in the recent *Daily Mail* Ideal (Workers') Homes Architects' Competition will be published on the 25th instant. The books will contain 50 plans for houses suitable for Northern industrial, Midland industrial, and Southern and Midland counties' rural areas respectively. In addition, they will contain the names and addresses of all the architects whose designs attained a sufficient



standard of merit to warrant their inclusion, and also the exact locality for which these "mentioned" architects' plans were suitable. The books will be published at 5s. each nett, and may be obtained from all booksellers, or direct from the Book Publisher, *Daily Mail*, Carmelite House, London, E.C.4; post free, 5s. 6d.

#### Peace Day Decorations.

At the request of the Council, Prof. A. Beresford Pite [F.] prepared the scheme of decoration for the R.I.B.A. premises on Peace Day. In the execution of the work he was assisted by Mr. G. K. Gray, of the League of Arts. An illustration of the scheme appears on the frontispiece of this issue.

The *Architectural Review* for August published the following note on the subject:—

#### STREET DECORATIONS FOR PEACE.

It is a pity that the outstanding events of the month of July—the Peace celebrations—should have had in them so little of art interest except of negative character. That in the capital of the Empire there was no concerted attempt to measure the magnificence of so great an occasion is a national scandal. It is no consolation to know that what we did was immeasurably inferior to what we could have done if the assistance of architects and other artists had been freely sought. A stately effect was got by very simple means in the Mall, whereby the hand of the artist was surely revealed; but, save for the Cenotaph in Parliament Street, there was almost nothing else that rose a hair's breadth above desolating insignificance. From this dismal category the decorations at the R.I.B.A. must be honourably excepted; but in the very act of compelling our admiration for their neatness and decorum they pained us by their strong contrast with the general welter of paltriness.

The work was carried out under great pressure of time by Messrs. Watts & Co., of 30 Baker Street, W.

#### University Intelligence.

6th August 1919.

In connection with the Bartlett School of Architecture at University College, London, the following new appointments have been made:—

Mr. Martin Shaw Briggs, F.R.I.B.A., Assistant.

Mr. H. Charlton Bradshaw, A.R.I.B.A., Assistant.

Mr. Ernest P. B. Musman, Assistant in the Evening Classes.

#### Commercial Building.

The following letter from Mr. Delissa Joseph [F.] appeared in the *Daily Telegraph* of 22nd July:—

#### COMMERCIAL BUILDING.

38 Coleman Street, E.C.2: 17th July.

To the Editor of *The Daily Telegraph*.

SIR,—The chief obstacle to the re-establishment of the building industry is obviously the increased cost of building, and it may therefore be worth considering whether and how this cost can be reduced. The principal cause of the increased cost is the price of labour, and the price of labour cannot be expected to fall until the cost of living is reduced. As there appears to be no early prospect of such reduction, and as, even after such reduction, the operatives would still

naturally demand a higher rate of wages than before the war, so as to enable them to maintain a higher standard of living, one can hardly look either for an early or an appreciable reduction in the price of labour. The price of labour in the production of a building does not merely affect the cost of placing the materials in position on the site, but affects the cost of production of the various materials long before they reach the site. Therefore, the cost of materials in their relation to the cost of production is not more likely to fall within a reasonable time than is the cost of their erection.

There remain, therefore, only two directions in which economy in building might possibly be secured—(a) the break-up of the alleged combinations in the building materials trade, and (b) the securing of a greater output by the operatives. With regard to the alleged existence of rings in the building materials trade, regulating both the price and the volume of output, we have the statement of the recent Government inquiry that such rings and such control do exist, and a recommendation that a Commission should be appointed to investigate, and if possible check, these combinations. If such steps should be taken and prove effective, there may be a prospect of some economy under the heading of materials; but this must take time.

With regard to the question of increased output, I submit that this can only be attained by giving the operative a participating interest in the profits of the operation by the way of a bonus supplementing the minimum wage. This would give the worker that sense of personal concern in the work which would be the incentive to a maximum output. The difficulty of applying this remedy, as I understand it, is that some of the trade unions are not in favour of the system, founding their objection on the view that, if a man does more than a certain amount of work in a day, he is depriving other men of work. The overcoming of this objection, if it can be overcome, will also take time. Meanwhile, building to languish, is enterprise to be strangled, and is employment to be restricted? The answer is—No. The facts must be faced, and the increased cost of building must be accepted as an outcome of the war in the same way as the increased cost of other productions has been so accepted. Upon whom, then, must the burden fall? As in all other instances, it must fall upon the consumer.

In the matter of new buildings, who is the consumer?—the tenant or the occupying owner. These classes must learn to recognise that, if they require accommodation for the housing and the development of their businesses, they must be prepared to pay a rental bearing the same ratio to the increased cost of building as pre-war rentals bore to the pre-war cost of building. The effect may be to reduce their trading profits by the amount of the additional rental, and, to this extent, they will be recognising the now inevitable necessity of permitting the working classes to participate in their profits more largely than hitherto, but only by such a sacrifice can accommodation be secured for new commercial enterprises or for the extension of existing businesses. Unless, therefore, building development is to be checked, new enterprises hindered, and unemployment increased, the consumer—that is, the tenant—must pay the increased cost of housing his trade. A trader, on the other hand, if he is indisposed to bear the full burden of the increased rent and the consequently reduced profits, can pass on a part of the loss to the retail purchaser, as we know is already done in most cases where the cost of production of other articles has increased.

In short, if the vast building industry, with its wide ramifications and its endless opportunities for absorbing employment, is not to be strangled, and if free development is to be assured for those business enterprises upon which the future financial position of the country so largely depends, the situation must be boldly faced upon the lines I have ventured to indicate, and the timid policy of waiting upon circumstances must be immediately abandoned.

Yours faithfully,

DELESSA JOSEPH, F.R.I.B.A.

#### The London County Council and Architecture.

The following letter from the President of the Royal Academy and the President of the Royal Institute appeared in the *Times* on 29th July :—

#### L.C.C. SUPERINTENDING ARCHITECT.

28th July.

To the Editor of *The Times*.

SIR,—It is understood that the London County Council propose at their meeting to-morrow to come to a very momentous decision, which must affect the well-being of London for many years to come. They are to be asked to elect a Superintending Architect as successor to Mr. Riley, the present greatly esteemed holder of the office.

The duties of the post require that he should be a man not only thoroughly conversant with the intricate building regulations of London, but, what is far more important, that he should possess wide attainments and an architectural training of the highest order. He should be capable of looking forward to, guiding, and controlling the future development of London; since to him will be entrusted the laying-out of new streets, the improvement of old ones, immense housing schemes, schools, fire stations, and all other building projects of the Council.

We venture to appeal to the Council to satisfy themselves that their choice has fallen on such a man before coming to a final decision. A large number not only of the architectural profession, but also of London lovers, are watching the result with much anxiety. None but the best is worthy of such a post.

ASTON WEBB, President of the Royal Academy; Chairman of the London Society.

JOHN W. SIMPSON, President of the Royal Institute of British Architects.

#### An Architect General.

On 26th July the King held an Investiture at Buckingham Palace, and on this occasion Major-General Sir Charles Rosenthal [A.] was invested as a K.C.B. (Military Div.) and also received the C.M.G. and the D.S.O.

A portrait of Sir Charles Rosenthal appeared in the May number of the *JOURNAL*.

#### Special Constabulary Reserve: Appeal to Members of the Royal Institute.

The following letter has been received from Sir E. W. D. Ward, Chief Staff Officer of the Metropolitan Special Constabulary Reserve :—

#### HEADQUARTERS METROPOLITAN SPECIAL CONSTABULARY.

SCOTLAND HOUSE,

NEW SCOTLAND YARD, S.W.

7th July 1919.

DEAR SIR,—You will have seen from the announcement in the Press that authority has been given for the immediate establishment of a Metropolitan Special Constabulary Reserve on the demobilisation on the 16th inst. of the existing Constabulary Force.

At a very early stage of the war it was determined that no one should enter or remain in the Metropolitan Special Constabulary unless, having regard to his age or medical category, the military authorities considered him better employed with us than elsewhere.

Consequently, in the Special Constabulary Reserve, we shall be extremely short of the very type of man whose services as a Special Constable would be of most use to the community in the event of a grave emergency arising—i.e., men under 50 of suitable physique. As it is only in such an event that the Reserve would be called up at all, it has been decided that steps should be taken at once, before any emergency has arisen to give to the Reserve the necessary leavening of young and active men.

The unrest in the industrial portion of the community is so marked that it is vitally important that there should be a Reserve and organised Force of patriotic citizens ready to assist the Regular Police in the maintenance of law and order. The Metropolitan Special Constabulary Reserve will only be called out for duty when the conditions are so grave that it is necessary in the opinion of the Commissioner of Police to reinforce the Regular Police.

I trust that the members of your Association will volunteer for this duty, which will only be necessary in the event of emergency, and which will not therefore at other times interfere in any way with their business occupations. My appeal is for members under 50 years of age and who are physically fit.

Those who are ready to take up these obligations of citizenship are requested to enrol themselves at the police station nearest to their places of residence.

It is intended that members of business associations or firms shall be enrolled, when their numbers admit, in sections under the command of men from their own offices, selected by themselves.

I attach copies of the Regulations for the Metropolitan Special Constabulary Reserve with Conditions of Service and shall be glad to issue to you as many additional copies as you may require.

I trust that you will grant me your valuable help in my task.

Yours truly,

E. W. D. WARD,

Chief Staff Officer.

The Secretary,

Royal Institute of British Architects,

9, Conduit Street, W.1.

#### War Memorials Exhibition, October–November, 1919.

The Royal Academy War Memorials Committee is making arrangements for the second section of the Exhibition of War Memorials, to be held at the Royal Academy in October and November, 1919, and to consist of works or designs for works in any class of Art or craft selected by the Committee as suitable examples for the guidance of promoters of war memorials. The Committee

desires to make the exhibition as fully representative as possible of the various forms which memorials may take, and trusts that artists and craftsmen, and also owners of suitable exhibits, will do their utmost to support the scheme by sending works. It is not intended to show works with a view to copying or slavish imitation, but to assist the public in the selection of suitable designs and of qualified artists, and to suggest the different forms available for memorials. A Bureau of Reference will be provided for supplying applicants with information regarding memorials, artists and craftsmen. Works and designs for works suitable for war memorials in sculpture or architecture, crosses, decorative paintings or tablets, brasses, metal-work, screens, stained glass, rolls of honour in vellum, etc., tapestry or embroidery, will be admissible for selection by the Committee. Each work or design must be accompanied by the name of the designer and of the executant artist. Special committees will be appointed by the Royal Academy Committee for selecting the exhibits from the works sent in. Schemes which are wholly or largely utilitarian do not come within the scope of the exhibition. The Committee reserves the right of excluding any work which may be considered unsuitable for exhibition. All communications should be addressed to the Secretary, Royal Academy, Piccadilly, W.1, and intending exhibitors will be sent forms and labels on application. It is hoped that the exhibition may be open towards the middle of October. Each application for forms and labels should enclose a stamped and addressed envelope and should be sent in during August. Applicants should state the number of labels required. Works must be sent in on either Monday, 22nd September, or Tuesday, 23rd September, between 8 a.m. and 8 p.m.

#### Appointments.

The following appointments have been made by the President since the last issue of the JOURNAL:—

**Arbitrators.**—Major Harry Barnes, M.P. [F.].  
**Assessors.**—Mr. H. W. Wills [F.], Gravesend Housing Competition; Mr. M. E. Webb [F.], Southport Secondary School Competition; Mr. Sydney D. Kitson [F.], Baildon U.D.C. Housing Competition.

#### The Building Industries Consultative Board.

The formation of this Board was described in the June number of the R.I.B.A. JOURNAL. The Board, which is now fully constituted, has held a number of meetings. Its proceedings have hitherto been, of necessity, of a confidential nature. They have been concerned mainly with the problems of building labour and the supply of building materials.

In response to a request for detailed information as to the procedure of the Munitions Ministry with regard to the purchase and distribution of building materials, Mr. Kellaway consented to receive a deputation of the Board at Armament Buildings on Thursday, 17th inst.

The deputation, which was introduced by the President of the Royal Institute, Mr. John W. Simpson, consisted of Major H. Barnes, M.P., the President of the National Federation of Building Trade Operatives, Mr. J. P. Lloyd (Vice-Chairman of the Board), and the Secretary, Mr. J. Murrey; the President of the National Federation of Building Trade Employers, Mr. F. L. Dove, L.C.C., and Mr. E. J. Hill; Mr. F. H. Hardcastle, F.S.I., and Mr. R. B. Mann, F.S.I., of the

Surveyors' Institution; and Mr. Ian MacAlister, Secretary of the Royal Institute. The deputation was accompanied by Major Prescott, M.P., and Mr. J. R. Remer, M.P.

In reply to the deputation, Mr. W. J. U. Woolcock, M.P., representing the Minister, who was obliged to leave on account of urgent Parliamentary duties, expressed his satisfaction with the action of the Royal Institute in uniting the administrative and executive sections of the building industry in a common effort to restore trade activity. He considered that the Board which had been formed might prove a valuable factor in improving the resources and credit of the country, and willingly undertook not only to furnish the members with all the information they required, but to place at their disposal the facts and figures relating to the purchase and supply of materials which have been compiled by the Department.

The deputation expressed their satisfaction with the attitude of the Minister and their grateful appreciation of his offer to supply the information they desired.

Mr. J. E. Drower, the Director of Building Material Supply, has attended a meeting of the Board and has given a large amount of valuable and detailed information on the subject of the building materials now available for housing schemes and for general building work.

## OBITUARY.

### Death of Sir Edward Poynter.

We have to announce with deep regret the death of our late Honorary Fellow, Sir Edward John Poynter, Bart., G.C.V.O., Past President of the Royal Academy.

The funeral took place on 30th July in St. Paul's Cathedral. The Royal Institute was represented by the President and a number of members of the Council.

We have also to record with great regret the death of the following Members:—

Frederic Hammond [F.].

Lister Coates [A.], of Halifax.

Abraham Sharp [Lic.], of Bradford.

Mr. Frederic Hammond was articled to the late Edmond Woodthorpe [F.] and was a Student and Silver Medallist of the Royal Academy. He entered into partnership with Mr. Woodthorpe and on his death carried on the practice in the City. During his practice he was Surveyor to the parish of St. Giles, Without Cripplegate, Surveyor to the Joint Gift Societies of St. Giles, Cripplegate, and St. Luke's, Middlesex, and Surveyor to the Trustees of the Lady Holles Charity.

Among his executed works were the following: Extensive restorations to St. Giles's Church, Cripplegate; built St. Andrew's Church, Highgate; built

Vicarages at Little Warley and Audley End, Essex; built extensive works for manufacture and storage of gunpowder at Chilworth (Surrey), Fernilee (Derbyshire), Barking (Essex), and Pirbright (Hants); re-built Infirmary and Casual Wards at Thavies Inn, Holborn, and very extensive works at Bow Infirmary and Homerton Workhouse; joint architect for Bleyton's Dwellings, Hoxton, and Industrial Dwellings, Walworth (both over £50,000); joint architect for Cripplegate Institute, City; built many warehouses and dwelling-houses.

For 38 years Mr. Hammond was a District Surveyor, first of North Islington, to which was added North St. Pancras and the attached portion of Muswell Hill, and then for over 20 years of Hampstead. He was a Fellow of the Royal Astronomical Society, a life member of the British Fire Prevention Committee, and on the executive for many years.

### COMPETITIONS.

#### Bootle Housing Competition.

The Council have directed that the following Resolution should be published in the JOURNAL:—

"Members and Licentiates of the Royal Institute must not take part in the Bootle Housing Competition because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions."

#### Cosford Rural District Council Competition.

The Competitions Committee of the Royal Institute of British Architects requests Members and Licentiates to refrain from taking part in the above competition, the conditions not being in conformity with the Institute Regulations for Architectural Competitions. The Committee is in communication with the promoters of the competition with a view to the amendment of the conditions.

### THE EXAMINATIONS.

#### The Intermediate Examination.

The Intermediate Examination qualifying for registration as Student R.I.B.A. was held in London from the 13th to 20th June. Four candidates presented themselves, of whom three passed and one was relegated.

The successful candidates are as follows:—

FELTHAM: Stanley Crathern [P. 1918], 126 Broadwater Road, Tottenham, N.17.

CROOK: Waldo Neville Harris [P. 1913], 6 Davenant Road, Oxford.

SUGDEN: Howard Davy [P. 1914], 51 Broomfield Road, Heaton Moor, Manchester.

#### The Final and Special Examinations.

The Final and Special Examinations were held in London from the 26th June to the 4th July. Of the 18 candidates admitted 9 passed and 9 were relegated. The successful candidates are as follows:—

DAVIES: David Harris [S. 1915], 138 Goddard Avenue, Swindon.

FORD: Thomas Francis [S. 1915], 36 Hanover Park, Peckham, S.E.15.

FRATER: Robert [S. 1913], 7 Bank Street, Greenock, N.B.  
GENTRY: Edgar Charles [S. 1918], 8 Plympton Road, Brondesbury, N.W.

HOLBROW: Alfred Ernest [Special], 13 Cowper Road, Hanwell, W.7.

JACKMAN: Frederick [S. 1910], "Woodcote," Imber Park Road, Esher, Surrey.

McMICHAEL: Alastair Marshall [S. 1917], Commercial Bank House, Callander, Perthshire.

SOUZA: Walter Edward de [S. 1916], 20 Woodville Road, Golder's Green, N.W.4.

WOODHOUSE: Francis Percy Mark [S. 1917], Sontismead, Wimbledon Park, S.W.

#### Austrian Architects and the Terms of Peace.

The following correspondence has been exchanged between the President of the Royal Institute of British Architects and the President of the Society of Engineers and Architects of Vienna. The Foreign Office have expressed their approval of the reply sent to Vienna.

SOCIETY OF ENGINEERS AND ARCHITECTS IN VIENNA.  
Vienna, 15th July 1919.

HONOURABLE PRESIDENT.—By this means we have the honour to present you a resolution, resolved the 30th June of the present year by the members of our Society in the Extraordinary Meeting; in this meeting it was considered from a technical and technical-economical point of view the conditions of Peace, being imposed by the allied powers on German-Austria—our present exclusive possession and sphere of activity.

In sending our resolution to all that much esteemed associations of foreign countries, with which we were associated by the scientific endeavours before being War, we beg you, in remembrance of this relationship, to assist us in obtaining an attention for the desires, expressed in our resolution, by the high Governments of their countries.

We remain, with great respect and esteem,

Your humble colleagues,

THE PRESIDENT OF THE SOCIETY.

The President,

The Royal Institute of British Architects,  
London.

#### RESOLUTION.

The Society of Engineers and Architects in Vienna, being the greatest union of men of the technical sciences in the German-Austrian Republic, is deeply excited by the contents of the treaty of peace, dressed in St. Germain en Laye.

She got the irrefragable conviction, that owing to the terms of this treaty the working power of the German-Austrian people will be entirely paralysed, for by the separation of vast and fertile parts of German territories from our country it will scarcely be possible to nourish our people sufficiently and by the intended terrible abatement of the national wealth and of territories possessing important raw materials like coal, wood and numerous water powers the occasion for working will be a lasting trouble for our people.

The bodily strength alone left to us, would never be enough to procure from abroad the wanting provisions and raw materials in a sufficient degree.

The Society of Engineers and Architects in Vienna is also of the opinion that the capacity of commerce and the right of commercial intercourse of our State will be damaged in a terrible way by the terms of peace regarding the harbours, the water communication and the railway traffic.



From the point of view of our vital interests are in particular impracticable and therefore unacceptable: The demand of illimited parity and highest favour to be granted to the allied and associated powers in using the Austrian communications without reciprocity for German-Austria, then the conditions provided in favour to the Tschechoslovakien State for making use of a railway-line, traversing the territory of German-Austria and finally the restriction of the German-Austrian navigation on the Danube and the seizure of the greatest part of the German-Austrian ships.

A State, that is obliged to accept such terms of peace, is incapable of existing. German-Austria would be obliged to sink down from her high degree of culture, high even in comparison to many of its neighbours, and to perish.

The necessity of maintaining the culture in our countries makes it a duty to the Western Powers, after having heard our deputies, to examine profoundly the terms of peace and to soften them to the largest possible extent.

In the name of the technical Science and the technical Labour of German-Austria, represented by our Society, we beg you not to refuse our request.

The President of the Society of Engineers and Architects in Vienna.

8th August 1919.

SIR,—I have the honour to acknowledge the receipt of your letter, dated 15th July, together with a copy of the Resolution passed by the Society of Engineers and Architects in Vienna.

While sensible of the just severity of the conditions in the Treaty of Peace to which the Resolution refers, the Royal Institute of British Architects would attach greater weight to their appeal had your Society taken any steps during the War to prevent, or to publicly protest against, the infamous destruction by their country's allies of those works of architecture whose immense value to the world your Society was very competent to appreciate.

Nevertheless, the Royal Institute ventures to hope that the terms imposed upon your country may prove less disastrous than the Resolution suggests; and, that after the Treaty has been signed, they may be able to resume relations with your Society in mutual effort to advance the Art of Architecture.

I have the honour to be, Sir,

Your very obedient Servant,

JOHN W. SIMPSON,

President of the Royal Institute of British Architects.

#### The Devastated Area in France and Belgium.

The French Red Cross organisation is anxious to bring home to the British public at large the real state of affairs in the devastated area of Northern France and Belgium. With this object in view it is arranging a series of personally conducted tours through the region, in which a number of representative men will be the guests of the French Red Cross.

The Royal Institute of British Architects has been approached, and it has been arranged that the President, Mr. John W. Simpson, and Sir Banister Fletcher, Sheriff of London, and members of the R.I.B.A. Council, will start on a tour leaving London on September 4th.

#### Architects and the Royal Engineers.

The following report will be of interest to many members of the Royal Institute who served in the Royal Engineers during the war.

Proceedings of Meeting of the R.E. Corps Committee held in Room 230, War Office, 21st July 1919

(in accordance with the resolution agreed to at the Annual Corps Meeting on 14th June 1919.)

#### Present.

- Maj.-Gen. Sir P. G. Twining, D.F.W.
- \*Maj.-Gen. S. H. Powell, C.E. Forces in Great Britain.
- \*Maj.-Gen. L. Jones, C.E. Eastern Command.
- Brig.-Gen. T. A. H. Bigge, A.A.G., R.E.
- \*Brig.-Gen. A. L. Schreiber, C.S.M.E.
- \*Brig.-Gen. G. S. Cartwright, C.E. Aldershot.
- Brig.-Gen. A. W. Roper, I.R.E.
- \*Brig.-Gen. G. Walker, C.E. London.
- Major L. Chenevix Trench, Hon. Sec. R.E. Committee.

\*Specially attended with power to vote, in accordance with resolution dated 3rd July 1919.

#### AGENDA.

To discuss Maj.-Gen. Sir P. G. Twining's proposal:—

"That in the opinion of this Committee it is not only desirable but is necessary that all possible steps be taken towards preserving the feeling of friendship and camaraderie which existed during the war between the Regular Corps of R.E. and the Special Reserve, Territorial and Temporary Officers and men, and that as a means to this end the R.E. Institute, and as far as possible other Corps Institutions, should be thrown open to these officers, and that steps be taken to bring this as far as possible to the notice of all such officers."

#### ACTA.

The opinions of the Presidents of the several R.E. Corps Institutions were read, and following conclusions reached:

*R.E. Band Fund and R.E. Widows' Society.*—The deed of settlement in the one case and Army Orders in the other preclude the possibility of an extended membership.

*R.E. Institute.*—Already accepts all R.E. Officers (including S.R., T.F., and T.C.).

*R.E. Charitable Fund.*—Already accepts all R.E., including S.R., T.F., and New Armies.

*R.E. Games' Fund.*—Terms of admission to be considered by Games' Committee.

*R.E. Entertainment Fund, R.E. Dinner Club, and R.E. Luncheon Club.*—Officers of the T.F. and S.R. and Temporary Officers will be welcomed at the Annual Dinner and the Annual Evening Entertainment, and the Luncheon Club tent will be open to them.

*R.E. Old Comrades' Association.*—Already open to all Members of Corps of R.E., including S.R., T.F., and New Armies.

It was further agreed that the above should be advertised in the *R.E. Journal*, and that the Engineering Institutions—i.e., Institution of Civil Engineers, Institution of Mechanical Engineers, Institution of Electrical Engineers, Surveyors' Institute, and Association of British Architects—should be informed early, through the medium of their Secretaries, of the decisions taken, and should be asked, as far as lies in their power, to disseminate this information among their members. Also that special pains be taken to notify existing Territorial Associations for the information of the R.E. (T.F.) administered by them of these decisions. Also a note of the decisions should be sent to Chief Engineer Forces in Great Britain and to Chief Engineers of Commands, who should be asked to disseminate the informations as soon and as widely as possible, and furthermore the Headquarters of the Royal Monmouth and Royal

Anglesey R.E. (S.R.), as also of the R.E. (S.R.) Signal and Postal Section, should be similarly informed.

### NATIONAL HOUSING.

#### EXPENDITURE OF LOCAL AUTHORITIES IN CONNECTION WITH THE PREPARATION AND EXECUTION OF HOUSING SCHEMES BY THEIR OWN STAFF.

The Minister of Health has had under consideration questions which have been raised in regard to the amount to be charged to capital account and the payments to be made for professional work in cases where State-aided housing schemes are prepared and carried out wholly or in part by salaried officers employed by local authorities. It is assumed that in such cases the local authorities will utilise the assistance of properly qualified architects in designing the houses and that the engineering and surveying work involved will be undertaken by members of the respective professions concerned.

On this assumption, the Minister has decided that the following arrangements shall apply:—

Payments to architectural, surveying, or engineering staff temporarily engaged in a whole-time capacity exclusively for the housing scheme shall be chargeable to capital account and rank for financial assistance.

Where permanent salaried officers of the local authority are employed on the work, a charge for remuneration for additional work in respect of the scheme may be made to capital account and rank for financial assistance. The amount so charged to capital account may include personal allowances to the permanent salaried officers for any extra work involved, provided that such allowances do not exceed one-third of the officer's normal salary in any one year, and do not continue for more than three years from this date unless, in the opinion of the Minister, there are special circumstances which justify an extension of the period.

The total amount to be charged to capital account where the work is done by the staff of the local authority, whether temporarily or permanently employed, shall not in any case exceed the following scales:—

#### I.—PREPARATION OF LAY-OUT PLANS.

(This work shall include survey, contours, design of roads, and the disposition of houses and other buildings on the site.)

Area of site in acres.	Number of houses.	Amount chargeable to capital account per house.	Total amount chargeable to capital account.
		s. d.	£ s. d.
5	50	5 0	12 10 0
10	100	3 9	18 5 0
25	250	3 0	37 10 0
50	500	2 6	62 10 0
100	1,000	2 0	100 0 0
250	2,500	2 0	250 0 0

If the site exceeds 250 acres in area the figures in the fourth column above should be proportionately increased.

#### II.—ROADS AND SEWERS.

(This work shall include detail plans, longitudinal and cross sections, quantities, specifications, supervision, and all work required to complete the work in its entirety, except the duties of clerk of works.)

Area of site in acres.	Number of houses.	Amount chargeable to capital account per house.	Total amount chargeable to capital account.
		s. d.	£ s. d.
5	50	15 0	37 10 0
10	100	12 6	62 10 0
25	250	10 0	125 0 0
50	500	8 9	218 15 0
100	1,000	7 6	375 0 0
250	2,500	7 6	937 10 0

If the site exceeds 250 acres in area the figures in the fourth column above should be proportionately increased.

#### III.—HOUSES.

(This work shall include design, details, supervision, and all work required to complete the work in its entirety, except the duties of clerk of works.)

2½ per cent. upon the first £7,200.
1½ „ „ next £35,000.
¾ „ „ remainder.

Suitable modification of this scale shall be made for repetition work.

No charge to capital account will be allowed in respect of the preparation of schemes which are not approved by the Ministry of Health.

A separate memorandum will be issued with regard to the scale of fees payable to architects and surveyors in private practice which may rank for financial assistance under the scheme.

#### A UNION FOR ARCHITECTS' ASSISTANTS.

The following particulars of the newly-formed Union will interest many members of the Royal Institute:—

#### ARCHITECTS' AND SURVEYORS' ASSISTANTS' PROFESSIONAL UNION.

For Salaried Architects, Surveyors, Quantity Surveyors, Draughtsmen and Technical Assistants.  
34 and 35, Bedford Square, London, W.C. 1.

#### MEMBERS of the METROPOLITAN EXECUTIVE COMMITTEE.

Chairman: R. G. LLEWELLYN EVANS.  
Vice-Chairman: P. W. FARMER.  
Hon. Secretary: C. McLACHLAN.  
Assist. Secretary: R. A. DUNCAN.  
Hon. Treasurer: W. G. MITCHENER.

#### Members of Committee:

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C. A. GREEN.	F. R. TAYLOR.
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J. B. HECTOR.	G. B. TUBBS.

## A NOTE OF WARNING.

The whole of England and Europe has just ceased being an armed camp, and the great result learned by this country is that "Numbers backed by Unity" are the prime factors in success.

All industries of to-day have realised this, and the worker of modern times is now a power to be seriously reckoned with. It would be superfluous to enter into the merits and demerits of Trades Unionism, but it must obviously occur to all members of the professions that if they want to better their financial position and to secure their just and proper recognition they must no longer remain disunited.

Various attempts at unity, with divers ideals and motives, have been made in the past, and have always failed from differences of opinion and want of support. And even now organisations of various kinds are in being which will ultimately fail through want of an all-embracing programme.

It is of paramount importance, therefore, that all should be warned, if they do not yet realise, that unless a powerful programme is attempted and all differences of opinion are fused into one Common Federation, any hope of successful unity is doomed to failure, and the condition of the professional man will be "in statu quo ante."

With the object of "Each for All and All for Each" the above Union has been formed, and an earnest appeal is now made to all Assistants throughout the United Kingdom to take steps immediately to enrol themselves in its ranks.

## HISTORY OF THE MOVEMENT.

In 1918 a few members of the Surveyors' profession, by personal effort, formed themselves into a body with the view of establishing some kind of Union. Simultaneously, some members of the Architectural profession banded together with the same object. These two bodies amalgamated, and a general meeting was held in April this year at the Hall of the Art Workers' Guild, Queen Square, London, when the principles and objects were discussed and placed before the public.

A mass meeting was then held under the chairmanship of a Member of Parliament at the Caxton Hall, Westminster, in April, 1919, when a representative Executive Committee was elected and a mandate to proceed with the formation of a Union throughout the country was given.

## CLASSES OF MEMBERSHIP.

The Union consists of three classes of members:—

- (1) Probationary Members, confined to those under 21 years of age and of less than five years' experience.
- (2) Members.
- (3) Past and Hon. Members, confined to those who have ceased to be employed members of the profession and to influential sympathisers.

## OBJECTS OF THE UNION.

- (1) To provide a common organisation for salaried Architects, Surveyors, Quantity Surveyors, Draughtsmen and Technical Assistants, and to protect their individual interests.
- (2) To abolish unpaid and underpaid assistance, and to institute a proper system of payment for overtime.
- (3) To watch over and secure efficient training of its members.
- (4) To assure the direct representation of its members on the Governing Councils of all professional bodies, and to

encourage co-operation with them and practising Architects.

- (5) To secure "open" references to Assistants.
- (6) To form an up-to-date employment bureau.
- (7) To provide opportunities for social and professional intercourse.
- (8) To assist members, where necessary and possible, in the execution of their private commissions and in commencing practice.

## ORGANISATION.

The Union is being organised on the purest democratic and non-political lines, the Committee in every way endeavouring to be expressive of the will of the majority of the members. By means of branches in all the large towns, local corresponding secretaries, and their co-operation in divisional areas, it is hoped that finally everybody will be roped in.

A stride has been made with gratifying results in this direction, and when complete further information will be issued to all members.

The rules and general conditions are being finally considered, and will be shortly in the hands of the printers.

## SUPPORT AND ACHIEVEMENTS.

Already the Union has secured the promise of Parliamentary support, and the sympathy of well-known Architects, private as well as official.

The Royal Institute of British Architects and the Society of Architects have shown every sympathy with the Assistant by appointing representatives to the Architects' Assistants' Welfare Committee, and we are greatly indebted to the Architectural Association for the most valuable and material assistance they have rendered us.

## PROPAGANDA.

Members of the profession are requested, when perusing the professional papers, to watch for any notices or articles written for or on behalf of the Union, to enable them to keep in touch with our progress. At the same time, it should be borne in mind that the best means of advertisement is personal effort, and all members must therefore become propagandists in whatever place they are or might temporarily reside or visit, and never let an opportunity slip by of advertising the necessity of joining the Union.

## PROGRESS.

The Committee is extremely gratified that in the space of a few months the Union has made rapid progress, and hopes that with the support which they feel sure will soon be guaranteed by all, they will be in a position to accomplish the whole of their programme.

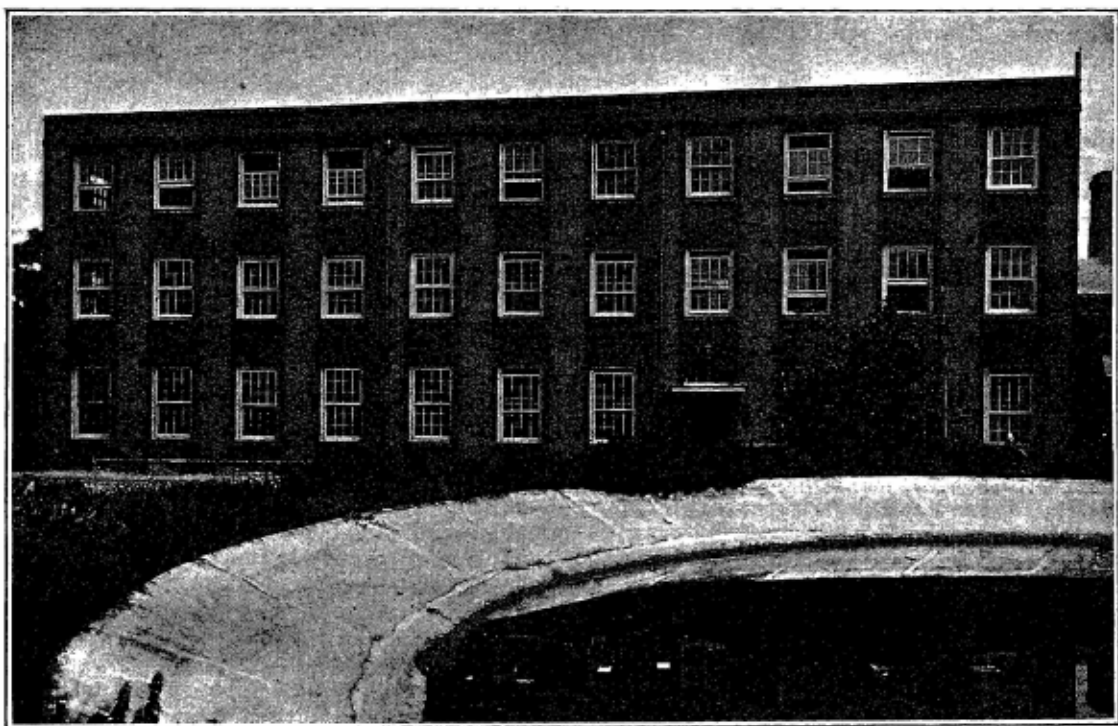
The Annual Subscription is 10s. (payable, if desired, quarterly); Probationary Members, 2s. 6d. All subscriptions should be forwarded to the Hon. Treasurer:—

Assistants' and Surveyors' Assistants' Professional Union, 34 and 35, Bedford Square, London, W.C.1.

## Professional Notices.

Mr. W. H. Atkin Berry [F.] has changed his address from 23 Old Broad Street, to 143 Cannon Street, E.C.4.

Mr. Frederick Chatterton [F.] has resigned his appointment under the Public Works Department of Egypt, and has accepted the editorship of *Specification*.



AERODYNAMICS BUILDING.

## WAR FACTORIES AND SHEDS: THEIR CONSTRUCTION AND ADAPTATION TO FUTURE NEEDS.

By SIR FRANK BAINES, C.B.E., M.V.O.

Abstract of a Paper read before the Royal Institute of British Architects, 17th March, 1919.

### PART II.

IN my previous address, those of you who were present may remember that I dealt principally with the design of factories concerned with manufacturing the constituents of high explosive, and with the filling, inspection and storage of H.E. shells. I propose this evening to give you brief particulars relating to factories employed in the filling of gas shells and in submarine-mine filling, and to illustrate the technical processes which had to be studied before the buildings could be planned, and the adaptations and improvisations which were carried out in response to the rapid development of modern warfare.

There are certain special buildings, too, which deserve description because of the interesting and exceptional functions which they performed in the prosecution of the war.

This has been rightly described as an engineers' war, and for this reason it has been inevitable that the essentially engineering aspect should predominate in the buildings which I am illustrating and describing. I have referred to the close association necessitated between the architect and the engineer, and to the value of a co-operative office at such a crisis in the

affairs of the nation, but the contexture of these professions must have been far more obvious from the illustrations which I have been enabled to present on the screen, and I have dealt rather fully with the process operations conducted in each building because this is the real key to the problem of planning. For architecture, as ordinarily understood, there was, of course, the very smallest occasion, and any superficial veneer of "trimmings"—frequently superfluous even in piping times of peace—was, of course, quite out of the question under war conditions.

What architecture there was had to be *organic*, and I am strongly of opinion that the architect's special training fits him pre-eminently for the planning and construction of complicated industrial buildings. I have the profoundest respect and admiration for the engineer and his achievements, but I feel that building construction of every description is the proper province of the architect: concrete and bricks, timber, and even steel, are his birthright, and he handles them differently, but not less efficiently, in consequence of an entirely different training, and the resultant attitude of mind.



## ASSEMBLING STATION FOR CHEMICAL SHELL.

*Object of the Station.*

The work to be performed at this station may be described in general terms as:—

- (a) The reception and storage of shell already filled with chemical.
- (b) Filling the heads of the shell with burster charges.
- (c) Painting the shell, preparing it for despatch, and despatching the completed shell.

*Nature of Accommodation.*

(a) *For the reception and storage of shells.*—Shells arrive principally by rail, but also by road in motor vans, and by canal in barges, and the receiving shed was so sited as to be readily accessible to all these sources, and also to the workers arriving by road.

The floor level corresponded with that of the railway trucks and the floor area, 200 ft. by 40 ft., was calculated for the accommodation of 40,000 shells at 120 ft. super per 1,000, stacked six rows high, requiring 6,000 ft. super nett, with provision for extension if required. The shells are examined on arrival, before removal from the truck, van, or barge, and only those passed are unloaded and stored, the defective shell being transported to a special shell hospital set apart and equipped for further examination and remedying defects.

Transit of the shell is effected by means of trollies, the surface of which corresponds with the height of the counter and benches, in order that the shell may be rolled into position and lifting obviated.

(b) *For filling the heads of the shell.*—This work is carried out under danger conditions, and the buildings are within what is called the danger area, provision is therefore made to prevent all access to this area except through a building in which workers change their clothes and undergo search.

The filling sheds are spaced 200 yards apart and consist of two parts, a receiving room 16 ft. by 7 ft., and a filling room, 16 ft. by 20 ft. Trollies bringing shells from the receiving shed enter the receiving room of the filling shed, from which there are two doors entering the filling room, respectively for reception and despatch of the filled shell. The filling room is equipped with a working bench and a stacking bench and is well ventilated, steam-heated and artificially lighted with protected lights, and provided with an emergency exit, the floor surface being easily washed and kept free from dust.

(c) *Painting, inspecting and despatching the shell.*—A well ventilated and lighted shed is required for these operations, so placed as to afford facility for delivering the shell directly into trucks, vans or barges. A floor area of 12,000 ft. super, with provision for extension, was necessitated.

This building is not in the danger area and workmen have direct access thereto after passing the main gate.

*Subsidiary Buildings.*

These are divided into two categories—non-danger and danger. In the first-named category are:—

- (1) The gate house, containing day and night watchmen's accommodation, turnstiles, and checking clock for workmen.
- (2) The manager's office, containing manager's room, chemists' room, and assistant manager's room, accountants', clerks', and pay offices.
- (3) Latrine accommodation.
- (4) Canteen, with seating accommodation for 170 men and 170 women in separate messrooms, with serving counter and central kitchen, scullery with counter for "dirties," larder, and store. Separate messrooms being provided for official and canteen staffs.
- (5) Boiler house.
- (6) First Aid station, doctors' and patients' rooms, and lavatory accommodation.
- (7) General store, and store for rescue apparatus, helmets, stretchers, etc.
- (8) Inspector's office, near despatching shed.

In the danger area are:—

- (1) *Changing rooms.*—Affording accommodation for 250 workers, divided for men and women, and providing for extension, and so planned that no worker, male or female, can pass to the filling sheds except under supervision.
- (2) Latrine accommodation.
- (3) Magazines for the storage of explosives, connected by trolley-ways with the general system.

A further factory, constructed primarily for lyddite filling, which was used successively for mine filling, shrapnel filling, and chemical filling, was next described. It was designed on the unit principle, the buildings consisting of men's and women's changing-houses, with bath and lavatory blocks, two bonded stores, 20 picric acid stores, sling shed, 4 sifting, 22 filling, and 8 melting-houses, empty shell and general stores, 2 magazines, transit sheds, laundry, clean and dirty-ways, offices, guard-room, canteen, time and pay office, boiler-house, loco shed, pump-house, and Army Ordnance Depot. The danger buildings were isolated by means of earthwork revetments built of material excavated in the construction of submerged railway sidings, approximately 50,000 cubic yards being utilised for the purpose.

Plans were commenced on January 4th, 1916, and completed in ten days, tenders being invited and the contract let on January 24th, when transit of the builders' plant commenced, and the work of inserting points and crossings in the main railway line, and construction of the sidings on the factory site began.

Within twelve weeks from commencement the requisite number of buildings were completed and handed over, and the work of melting picric acid and the filling of shells begun. The estimated capacity of each unit was 100 tons of melting and filling per week, but with improvements rapidly effected this

output was exceeded by from 50 to 75 per cent., while the cost of production was reduced.

Some two million bricks and fifteen hundred standards of timber were used in the construction of this factory.

In the first instance it was arranged that the picric acid should be melted in three concentric copper vessels, in shape resembling an ordinary washing copper; oil was filled between the outer and intermediate vessels and heated by gas flame underneath, the picric acid being placed in the innermost chamber, which was removable, about 80 lb. of picric being dealt with in each melt.

The inefficiency of this process soon became manifest, as the vessel containing the picric was insulated by an air space from the heated oil, and much of the heat was lost by radiation.

There appeared to be no reason why the vessel containing the picric should not be placed directly in the oil, and there seemed to be no justification for making the whole outfit of copper.

It was decided, therefore, to heat the oil in ordinary galvanised tanks, and to heat the picric in copper or aluminium vessels, called "cans," shaped more or less like ordinary water-pans, but with a pouring-lip in place of the spout.

The tanks were constructed to take ten cans, each holding 30 lb. of picric, making 300 lb. in all for each melt. The burners were placed in the lower chamber in the tank, no communication being permitted between this chamber and the air of the melt-house, air for combustion being drawn entirely from outside.

Small glass windows were placed in the ends of this combustion chamber in order that the girls in the melt-house could keep the gas jets under observation and ascertain if these were burning properly. To facilitate this examination sloping mirrors were placed in front of the windows, in order that the girls could see the jets in operation at a glance.

In the earlier process each tank cost about £120, whereas in the later process the cost was reduced to about £40, while at the same time the output was more than doubled and the gas consumption reduced by one-half. That this result was achieved without undue risk is proved by the fact that in three years no single fatal accident or serious fire resulted at this and another large factory in which the apparatus was installed.

Picric melts at a temperature of about 270° F., the temperature varying slightly with different qualities; but in order to enable the can to be carried from the melt-house to the filling house the temperature has to be raised to about 330° F., the oil in the tanks being maintained at about 370° F.

It is well known that the most economical method of utilising coal is to gasify it completely in what is known as a gas producer plant; and at one of the larger and more permanent factories a plant was laid down for obtaining producer gas from anthracite fuel.

This plant is the largest in the country for the

production of gas by this method, for consumption in heating process, although larger plants exist for supplying gas to gas engines. The process of using this type of gas as a heating agent had not, in fact, been fully developed before this particular war factory was constructed, and numerous experiments were necessitated before obtaining successful burners.

#### FILLING STATION FOR SUBMARINE MINES OR "SINKERS."

The site of this factory, situated in open country, adjoined one of the main-line railways and connection was made to an existing siding, to which a marshalling-grid, consisting of five lines 800 feet long, was attached at some distance from the main line. Adjoining the grid a separate siding was put down, with a halt for passenger traffic to the factory. From the grid two sidings were run to the north and south sides of the factory respectively, the former serving the magazines and ammunition store, and the latter being used for transporting the mines, which are lifted by steam crane from the railway wagons on to trucks of the narrow-gauge track. This line also served the boiler-house, generating-house and general store.

A 30-foot roadway was constructed to give road access to the factory, extending to the administrative blocks, etc.

Footpaths were provided from here to the factory buildings. From the crane track three lines of narrow-gauge railway were provided for the conveyance of the empty mines to the filling or melt-houses, which were 200 feet away; and the track was continued through the filling house for a further distance of 200 feet to provide standing space for cooling purposes. Four magazines were provided, each 80 feet by 30 feet, suitable for the storage of 100 tons of T.N.T., with covered platform at one end in addition, so that the T.N.T. could be unloaded direct from the trucks and conveyed to the expense magazines without passing through the magazine. Expense magazines with 10 compartments were provided to each unit, each compartment having a capacity of 1½ tons of T.N.T. The expense magazines were connected with the main magazines by a clean platform; and unheading-houses were provided between the expense magazines and the filling houses. Two empty box stores were situate between the magazines, the distance from same being 300 feet.

Lavatories were provided for men and women adjoining the filling houses and also the magazines. Small change-rooms were also incorporated in the plan of these buildings for the changing into factory shoes, etc., the main changing house being placed with the administrative buildings, where further lavatory accommodation was provided.

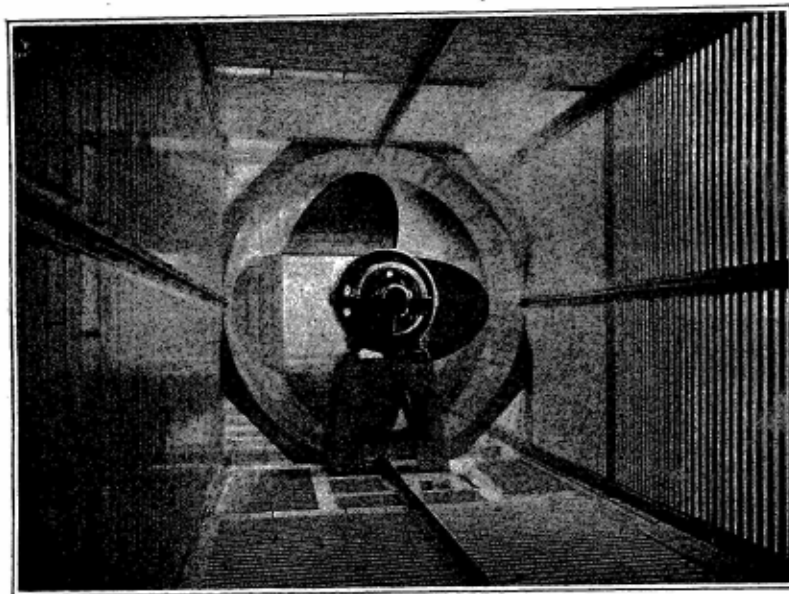
The construction of the buildings generally was of steel framing, the roof principals being covered with corrugated iron, with asphalt floors to the magazines. The filling houses were of fireproof construction, brick being selected as the most suitable material.

The engineering services included the heating and lighting of the administrative buildings, together with cooking appliances for the canteen, etc., also a small amount of heating in the danger buildings and melt apparatus, etc., for the process work.

The fire service consisted of pump-house, built at low level, with a reservoir, adjoining the existing land drain; sprinklers and hydrants were provided, and cold water service by means of a 9-inch main run from an adjoining village. An elevated tank was provided in connection with this service to give pressure and storage.

The generating station consisted of two complete steam generating sets and switchboard, the steam being obtained from the Lancashire boilers, which provide the heating. Electric light mains, etc., were run to the various buildings by means of overhead cables on poles.

Each melt-house was fitted with three melt-pots, with the necessary hoist for each pot.



AERODYNAMICS BUILDING.

#### AERODYNAMICS BUILDING.

Of various buildings erected during the war one of the most interesting is perhaps the aerodynamics building for the Aeronautical Department, in which experiments are made upon scale models of aeroplanes, airships, and also component parts, which are held by various means in the wind current in specially designed tunnels, the forces due to the wind being measured by balances. These experiments provide the necessary data for calculating the performance and stability of the full-size machines.

Before the outbreak of war, the equipment in this department consisted of three wind tunnels, respectively 3 ft., 4 ft., and 7 ft. square in cross section.

Owing to the pressure of work in 1915, it was found necessary to provide further equipment, and a building was erected to house a second 7-ft. tunnel and also a second 4-ft. tunnel, together with the electrical plant required to run them. Adequate office accommodation, a pattern shop, and model-making shop were also included in this building. Towards the end of 1917, however, it was found necessary to increase still further the accommodation for this important service, and an additional large building was erected. The plan of this building includes an administrative office block and three floors, a large workshop for making models, a motor and generating house, battery room and two other rooms for the third 7-ft. tunnel, and a still larger wind tunnel of special design, with a rectangular working section 7 ft. by 14 ft.

The original 4-ft. tunnel is ultimately to be transferred to this site in order to leave room for the extension of the Engineering Department. The buildings were designed to match the existing buildings on the site. The red facing bricks used were from Dane's Hill brickworks, the panelling being carried out in Crowborough bricks.

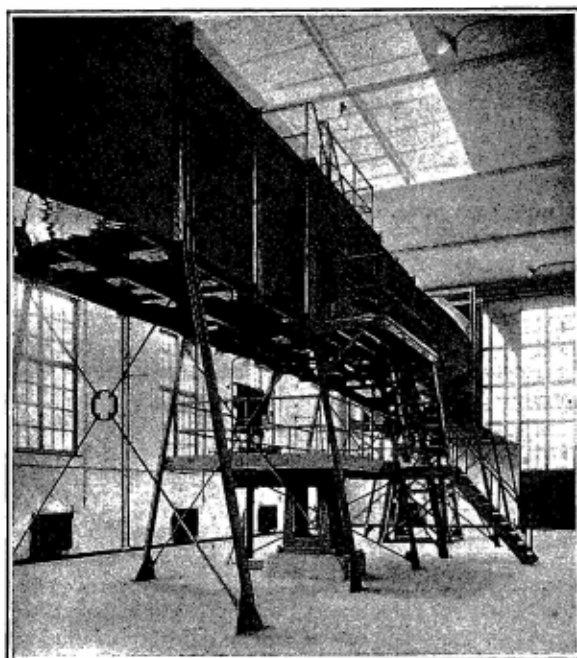
A special feature of the building is the "Duplex" channel room, where a clear span of 70 ft. and a height of 40 ft. were required.

To prevent internal air-eddies the steel girders spanning this apartment project above the roof surface. The filling between the steel trusses is formed with "Siegwart" reinforced concrete beams, laid on the under flange of the girders. This construction has proved most advantageous, no centering being required.

The wind channels themselves required the most scrupulous care both in design and construction, and in the selection of timber, particularly at a

period of scarcity in the finer grades of that commodity.

The working section of each wind tunnel has a length of about six times the side of the square cross section. Air is drawn through the tunnel by means of an airscrew, discharged through a distributor into the room containing the wind tunnel, and returned to the inlet end of the tunnel at low velocity through the room. The velocity in the working portion of the tunnel is practically constant over the cross section to within a few inches of the walls. Speeds up to 80 feet per second can be obtained in the No. 2 tunnels, while still higher speeds will be obtained in the additional tunnels.



WIND CHANNEL.

## FUEL RESEARCH STATION.

This department was founded for the purpose of conducting research and experiments on a working scale, to establish standard methods of, and apparatus for, conducting chemical and physical tests for fuels obtainable from raw coal, &c., by the process of carbonisation and gasification.

For this purpose an elaborate research station was erected on a site adjacent to the river, with railway sidings, unloading platforms, retort house, briquetting house, tar and oil stills and condensers, laboratories and workshops, and so on, all complete, where it is proposed to probe very completely into at least three main problems:—

1. The use and value of coke for the direct firing of steam boilers.
2. Its gasification in producers for the manufacture of low-grade fuel gas, and the recovery of its nitrogen as ammonia.
3. Its use for industrial and domestic heating, either directly, as it comes from the retorts, or after its conversion into briquettes.

The ramifications of the coal problem are, indeed, without end. The use of town gas as a fuel for industrial purposes, present methods of gas heating, the most efficient way of employing low grades of fuel gas for heat and power purposes, the supply of electricity in bulk, are branches of the subject which it is proposed to investigate here.

The site, as stated, is situate on the river, and difficulties with the sub-foundation were naturally to be anticipated. Four-inch borings were therefore sunk, and at a depth of about 9 feet ballast was

encountered, varying in depth from 10 to 20 feet. In consequence of this variation it was found necessary to take borings at practically every point at which heavy concentrated loads were to be anticipated.

The chief problem was encountered in the foundation under the tower. The original tube boring indicated about 20 feet of ballast under that point. When, however, the top ballast was uncovered over an area of about twenty square feet it was found that the ballast varied in depth from 3 to 7 feet, and underneath this ballast was a layer of fine running sand above a further bed of ballast. It was decided therefore to carry the foundations on to the lower ballast if practicable; upon removal of the top ballast and about 2 feet of the sand it was found impossible to proceed with the removal of the latter owing to the upward pressure. The advisability of piling was weighed, but it was considered doubtful if a pile would penetrate the lower ballast sufficiently to ensure stability, and as an alternative a test was made to ascertain whether bags filled with concrete could be sunk through the sand, by displacement, to a bearing upon the lower ballast. This experiment proving generally successful, the method was adopted and the whole of the foundation was formed of concrete in bags. Diving suits were provided to enable men to work below the water level in order to ensure a firm bearing for the bags on the ballast, and a test was made by splitting up the foundation into fourteen sections, each section being loaded to the ultimate load which the foundation was designed to carry.

On the whole the testing established that the concrete bagging had been carried out satisfactorily, the registered subsidence rarely exceeding half an inch. A raft of reinforced concrete was then constructed upon the concrete bagging, and the superstructure built upon this in the ordinary way, special provision being made for the foundations of stanchions, &c.

Under the main building the concrete raft was kept some two feet below the floor, the surface being finished with a layer of sand upon which blue bricks, roughly grouted in mortar, were laid, and the intervening space was utilised for pipe-runs. By this means any portion of the floor could be taken up without necessitating interference with the concrete raft.

The main building is nearly all steel framed, the curtain walls being formed of 4½-inch brick filling, pointed on both sides, carried by the framing.

The steelwork to this building is very complicated, being so much intermixed with the machinery and plant. This will be realised when it is stated that the floor carrying the coal-breaking plant is only about 20 feet square. The number of detail drawings in connection with this was 132.

At the centre of the main building running north at the higher level are the bunker floors. This floor is spanned by a short span roof wholly glazed. This



also forms the access for coal to the back addition of the main building, in which is housed the vertical retorts. The whole of the main roof is glazed.

*Process.*—Rail access to the site is about 20 feet above the general level of the site. Coal is brought in trucks to sidings on the existing bank, the coal truck being placed on a turntable situated on the bank, and then pushed into the breaking floor, where the contents are discharged from the truck into the breaking plant. The coal then goes through the breakers and is deposited at the lower level into trucks at 2-feet gauge track. Trucks are then taken to the lift in the tower building and lifted up to the bunker floor level, and empty their contents in the hoppers in the main building or into the hoppers at the north addition, which feed the retorts.

The coal from the hoppers in the main building gravitates to the low-temperature carbonisation plants, from which gas and residues are collected in the gasometers situated outside the building and also the carbonisation liquid tank, etc. The motor residual is tested in the tubing boilers to find its calorific values. The Glover-West retorts situated in the north annexe are for the purpose of high-temperature carbonisation. Water gas plant is placed in the main building for the heating of all units.

#### WOOD-DRYING KILNS.

The artificial seasoning of home-grown timber was necessitated owing to the limited cargo space available for the importation of timber and difficulties of obtaining adequate supplies from foreign sources.

The system adopted is that comprised in Erith's patent automatic timber dryer, which embodies the principle of the rotary circulation of a moving mist of very moist, warm air, without employing any mechanism to produce this rotary circulation, which is entirely due to the arrangement of the heating coils and humidifiers.

The timber to be dried is piled up on two wheeled car-bunks, which run on rails laid to a slight slope through the kiln. The timber is suitably piled to allow the warm moist air to penetrate to every board, thus ensuring uniform drying.

The process of drying is a progressive one. The truck loads of timber enter the charging end of the kiln, and are moved through the kiln a certain distance each day according to the number of trucks removed at the discharging end. Thus the kiln is always full of timber, and as many truck loads are put in as are taken out each day. The length of the kilns is such as to allow the timber to be in the kiln for about ten days when two trucks per tunnel are removed per day. This time is allowed when home-grown fir is being treated. The kilns can either be single or double tunnel kilns according to the quantity of timber to be dealt with, and the width of the tunnels varies for the same reason. The widest tunnel used in the kilns we are considering is approximately 33 feet, and the narrowest 20 feet. The former has six lines of rails

upon which the trucks of timber progress throughout the tunnel.

Heating coils extend for about two-thirds of the length of the tunnel, and at the discharging end the amount of heating surface is augmented. The first one-third of the tunnel at the charging end is free of heating coils and the timber as it enters is thus introduced into a comparatively cool atmosphere, which, as it progresses towards the discharging end, increases in temperature. By this means the drying of the wood is gradually effected without causing it to warp, twist or crack. The humidifiers for producing the necessary moisture in the kiln are fixed towards the discharging end, and the effect of the cooling of the warm air by the timber as it rises from the heating coils, combined with the disposition of these coils, produces the rotary circulation of the warm moist air.

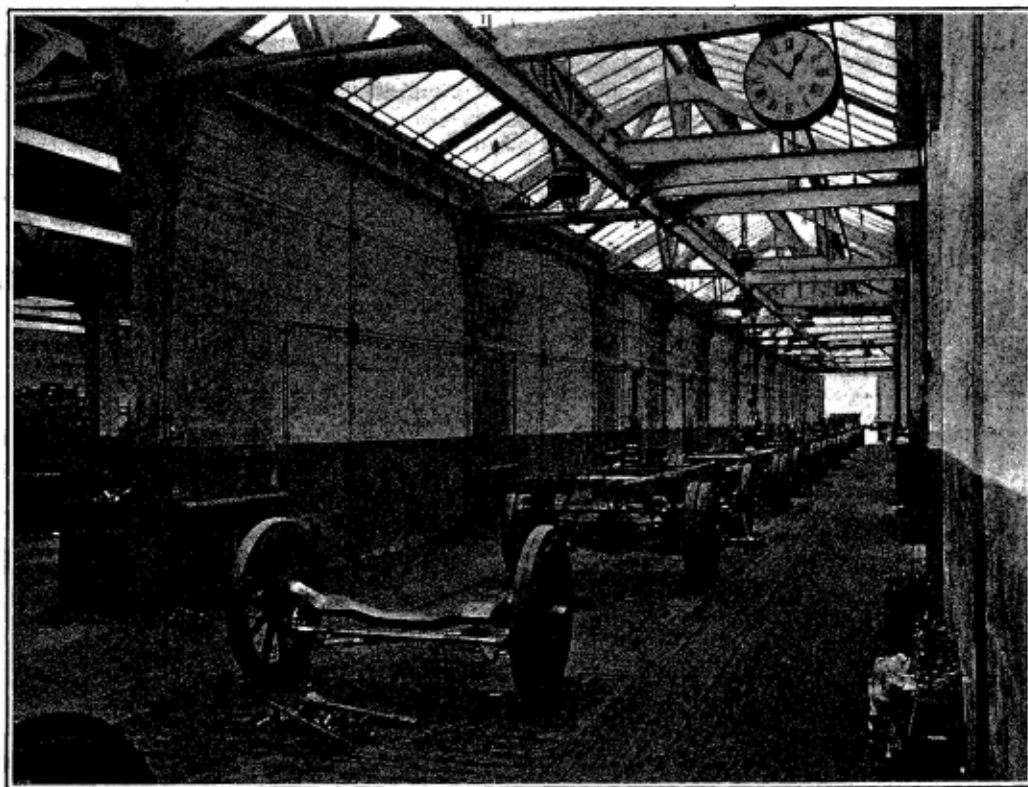
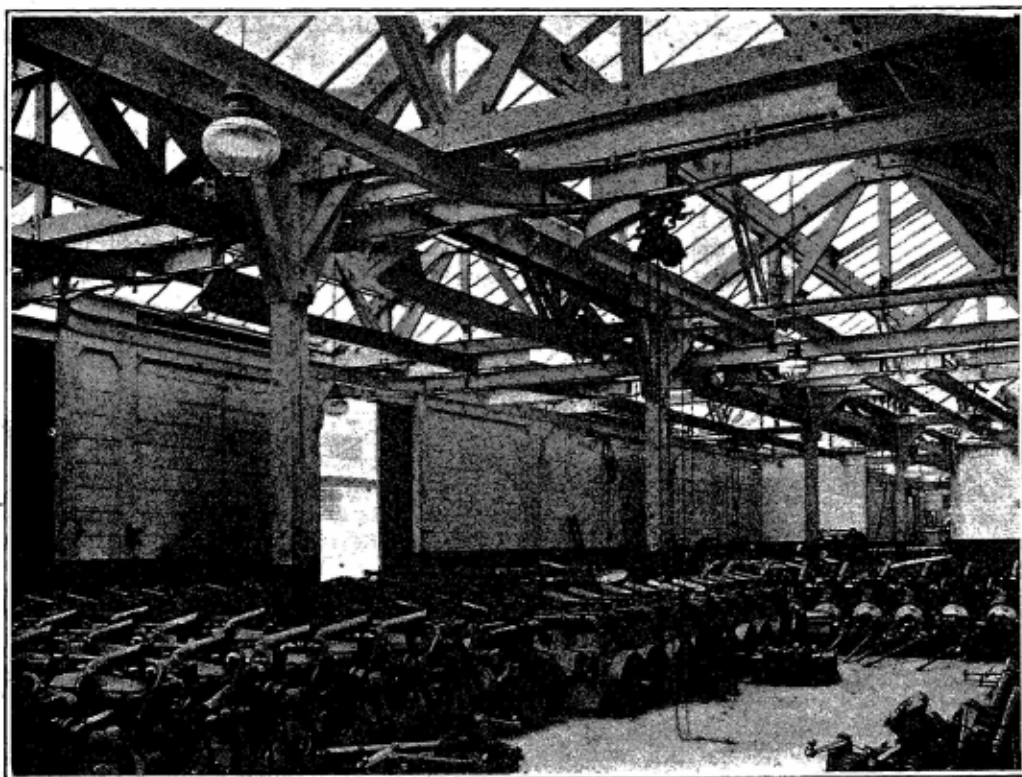
It is of great importance that the air in the kiln should possess the correct degree of humidity. If it is not sufficiently humid the surface of the wood becomes dried, preventing the proper treatment of the inner part. The function of the humidity is generally to keep the pores of the wood open while the temperature draws the moisture out of the wood. It is claimed that this process, while withdrawing the moisture from the wood, does not remove any resinous or other substances, which are valuable in preserving the wood, and its qualities in this respect as well as in others are equal to those possessed by wood seasoned by natural process in the usual way.

In addition to the heating coils and humidifiers within the kiln, controlling valves are assembled in a subway under the discharging platform. Suitable boiler house equipment is provided to supply the steam and to collect and return the condensed water to the boiler house for re-use.

Shafts with regulating dampers are provided at the charging end for adjusting the quantity of air and vapour discharged into the atmosphere, and wet and dry bulb thermometers of the ordinary pattern, and recording hygrometers, are provided for registering the temperature and humidity of the interior of the kiln.

Sufficient heating surface in the coils is provided to extract about  $1\frac{1}{2}$  tons of moisture per standard of 165 cubic feet from the timber in the process of seasoning, and approximately two tons of steam are required in the heater coils and humidifiers per ton of moisture to be removed. The quantity of moisture in the timber varies considerably, and the above figures may be taken as maximum requirements. The largest of the kilns installed is capable of turning out 80 standards of seasoned Scots fir and larch per week, and the time during which it is in process varies from 12 to 15 days, according to the condition of the timber. The temperature and humidity maintained in the kiln are  $120^{\circ}$  F. on the dry bulb and  $110^{\circ}$  F. on the wet bulb, corresponding with about 65 per cent. saturation.

Ten kilns in all were erected, and were sited at



MOTOR ASSEMBLY WORKS.

national sawmills, seven in England and three in Scotland. Of the ten kilns the one described may be considered a typical example, although not the largest. It is a double kiln built in brickwork. The two parallel kilns or bays in this case are 93 feet long by 25 feet wide, with a clear height of 11 feet above the rail level; below the rails a space approximately five feet in height was occupied by the heating pipes and coils.

The rails are carried on reinforced concrete beams and 18-in. brick piers, and have a fall of 1 in 60 towards the unloading platform.

The kiln is roofed with timber, Belfast trusses span both bays, thus making provision for the removal of central wall at the end of the war for conversion into a shop, mill or store shed.

The roof covering is of corrugated iron, and the underside is ceiled in cement plaster, or in some cases with fibro-cement sheets. The roof is continued at each end to provide a covering for the loading and unloading platforms. The ends are closed by heavy canvas curtains working on rollers, this being a most simple and effective method of containing the heat and humidity.

Steam is generated by two loco boilers erected in a small separate boiler-house, the sawdust being used as fuel.

The capacity of the kiln while fully loaded is 56½ standards, and the number of standards seasoned per week is 37½, while the moisture evaporated per week equals 56½ tons.

These kilns have proved most satisfactory, and the output has exceeded the estimate by about 30 per cent., while the quality of the seasoning has been excellent.

#### MOTOR ASSEMBLY WORKS.

*Unit Stores.*—These buildings are of the type known as semi-permanent. They were erected for the purpose of facilitating the rapid construction of a large number of motor lorries required for transport on the Russian frontier. The proposals for the output of this building were put forward by the Russian Government to the English Government in about November, 1916; and the Ministry of Munitions delegated the work to the Associated Equipment Co., Walthamstow. This company deals with practically the whole of the transport in the London area, and its associated companies control the London General Omnibus Co. and the United Electric Underground Railways, etc.

The Ministry of Munitions required this building with particular urgency, anticipating at that time that Russia would undertake a very vigorous offensive in the spring and summer of 1917.

The first particulars were received on November 10th, 1916, and the drawing staff concentrated upon the production of the necessary drawings, which were finished on the 14th, together with a complete specification, and were approved by the company and by the Ministry at once, a contract being arranged

so that work could be commenced upon November 23rd.

Owing to the necessity for rapid erection, the building was so designed that the minimum amount of material would be requisite to give the covered area. Timber was selected for the main portion of the structure, as long span roofs were not required.

The timber posts were spaced at distances of 20 feet, at right-angles to the trusses, the trusses themselves being 20 feet span. The posts were built out of 3-inch timbers bolted together. They supported a timber-framed gutter, the deflection of the gutter being reduced by brackets springing from the sides of the posts. The roof trusses were constructed of timber, the joints being effected by means of steel plates. The purlins were also of timber, and in order to reduce the depth over the long spans, supporting brackets were built up from the tie-beam.

The north slope of the roof was glazed, the south slope being covered with corrugated asbestos sheeting. The gutters were formed of bituminous felt in two layers. It may be remarked that this was an experiment with corrugated asbestos sheets, which were adopted in order to save the expense of slate roofing, a strong objection being raised to corrugated iron owing to the expense of maintenance. The corrugated asbestos sheets were found to be unseasoned in some cases, and under the guarantee of the firm supplying them they had to be replaced from time to time. The seasoned sheets were found to be satisfactory. The roof glazing was of a reinforced concrete bar—lead covered bars were difficult to obtain, and the wood substitute bars had not been fully developed. The reinforced bar answered satisfactorily after being placed in position, but it was found that during transit a very large number of them became strained and broken.

The external walls of the building were constructed of hollow terra-cotta blocks filled-in between the timber framing and brick piers. The floor throughout was of concrete finish with a spade face—granolithic was not required.

The main feature of this building was the method adopted for building up the motor lorries. The idea of a moving band was first developed by Mr. Ford in America for the purpose of constructing his motor cars, and the management adopted the same principle with slight variations. It is 8 feet broad, and consists of a platform formed of timber bars 4 inches wide and 3 inches thick. These bars are fixed to a chain or a band on the underside, and the band revolves round two drums at either end of the building. The band is 276 feet long in all. The method of working provides for the band to travel at a certain number of feet per second, and the motor lorries are built up upon it as it moves forward. For instance, the back wheels and front wheels are taken out of compartments at the side of the band and are placed in the exact positions required. As the band moves forward it comes opposite another

compartment in which the frames are stored. The frame is placed upon the wheels, and the band again moves forward opposite another store, in which engines are supplied. This method is continued down the whole length of the building, the heavy engine parts being taken from the stores to the requisite position on the band by means of overhead pulley-blocks. The rate of travel is such that it enables the workmen to fix all the component parts in order; and by the time the motor lorry reaches the end of the band it is ready to drive away with its own engine filled with petrol.

The system worked very satisfactorily, the difficulty being to ensure the supply of the necessary number of component parts in order to keep it perpetually at work. Apart from this difficulty the rapidity of erection exceeded all expectations.

The moving band was in operation within about 2½ months from the date of the commencement of the work.

### DISCUSSION.

Mr. H. D. SEARLES-WOOD, in the Chair.

Mr. PERCIVAL FRASER: It is my privilege tonight to move a vote of thanks to Sir Frank Baines for his wonderful paper on war buildings.

I think we in this Institute ought to be proud of Sir Frank Baines. It has been our cry for the past five years that the architectural profession has never been properly utilised, but I think Sir Frank Baines, at least, is one architect who has done yeoman service in a time of great crisis. At the same time, I think he has been in an enviable position, for he has had the resources of the greatest Empire in the world to call upon. These buildings seem to have been undertaken wholesale. Foundations were tackled with considerable courage, but, at the same time, at enormous cost. It has been my misfortune—or my fortune—to specialise in this type of building—factory buildings—but I have received nothing but rebuffs from the Government, although since 1914 I have not had one penn'orth of work which was not of the greatest national importance in the way of buildings for foodstuffs, aeroplane factories, and so forth. Had it not been for Mr. Hare and Mr. Newton at the Ministry of Munitions, I do not know what architects like myself would have done. Sir Frank Baines spoke, I thought, slightly of architecture as ordinarily understood. ("No.") He said there was only one way to understand the word, and that is the dictionary definition. According to the Oxford dictionary, it is: "Architecture is the art and science of designing and building, especially structures for the purposes of civil life." There is nothing in that to speak of in a disparaging way. I am sure the Government were not averse to architecture of that sort. Architecture in no sense means decoration, but the erection of buildings usefully and economically. There is one thing which Sir Frank only touched on lightly, and that is the lack of forethought in not providing more fireproof

buildings. We have had one or two frightful disasters in this country. One we all know of was in the neighbourhood of Nottingham, and that was entirely due to the lack of a fire installation and fire-fighting appliances, particularly sprinklers. Both that calamity and the one at Silvertown started in fires of moderately small dimensions which would have been automatically extinguished if there had been those appliances.

I would like, if I might, to indulge in one little grumble about the paper, and that is, I wish there had been a little less chemical engineering and a little more construction detail, particularly in regard to the factory where Sir Frank used the ingenious method of finding the foundation ballast with sacks. It would be helpful if we were given one or two working drawings, showing the method of eliminating internal columns so as to get a clear space of over 100 feet. It would also be well to know what experience he gained in the use of north lights, the use of which is not well enough understood in this country.

Again, I would like some information about the huge sliding doors in one of the factories, which must have weighed many tons, and which, I presume, must have been opened and shut by mechanical means.

In thanking Sir Frank Baines for this wonderful paper I am sure the Institute will be behind me when I try to pay some small tribute to the heroism of the workers in these factories, for they have been paid for not in money only, but in blood. (Applause.)

Mr. W. J. H. LEVERTON, *Licentiate*, in seconding the vote of thanks, said:

I was very pleased to hear Sir Frank Baines' remarks about architects and engineers working together; that is the only way to get the work thoroughly well done. But one of these must lead, you cannot have dual control. In the war it was only when the supreme command was in the hands of one man that we won, and so in civil life, one must be in supreme control. I think that, at all events, here—whatever Great George Street may think—we in Conduit Street believe that that one man should be the architect. He is able by his training to take a more statesmanlike view on the matter than is the engineer. The engineer enters more into details, the architect is he who plans the general scheme, and he must call in the engineer to work out the details.

I was also pleased to hear Sir Frank's remarks upon architecture, that it is not merely a question of piling on ornament. To one building he showed I thought he gave a fine architectural character; it was illustrated in the *Builder*, and the proportions were extremely nice.

THE CHAIRMAN: In putting this vote of thanks, there are one or two questions which I myself would like to ask. We have heard much about Belfast trusses, and I would like to hear Sir Frank Baines' opinion about that form of construction; what is the cost of maintenance of those roofs which are supported



by the Belfast trusses; and how shafting which is fixed on Belfast trusses behaves itself.

I would like to confirm Mr. Percival Fraser's remarks as to the way in which Sir Frank has brought this subject before us. He has certainly built the largest sheds that England possesses, and seems to have given us the longest paper we have had in the Institute. At the same time, every word Sir Frank Baines said seems to have been so full of interest that I have not lost a single sentence, and to maintain interest in that way is a very great thing in a lecturer.

SIR FRANK BAINES (in reply):

One of Mr. Fraser's remarks made reference to the fact that I was in the very happy position of commanding the resources of this great Empire, and that, therefore, I need not consider money. But I would inform him that money was one of our bugbears: it was impossible for me to get a scheme through unless I could assure the particular authority responsible for it that it was as economical and cheap as it could be under all the conditions. It was never thought, when we had to do this exceptionally difficult work in exceptionally short periods of time, that that necessarily meant extreme expense; it was not recognised, but we had to attempt that under conditions as to cost which I am sure we should not attempt to do to-day. We had to revise our standards and take risks, to revise our methods, and cut down materials to the lowest limits, so that in the great steel constructions of this war I have reduced the ordinary factor of safety from 4 to 3, a course which is incurring a grave responsibility, especially as that factor had to be undertaken when we were utilising structures of great complexity, and with steel which behaved differently under various conditions. Therefore, one of the most material causes of pride which I rather take to myself in this matter is that we have never taken the stand that money was no object in our work, but our attitude has been that efficiency was absolutely the handmaiden of economy, and that unless we worked up to such standards we were not worth our salt.

With regard to foundations, Mr. Fraser said we had the power to undertake this difficult work without relation to cost, but in the problem I referred to this evening there were only two methods open to us: either by piling, or by the unusual method which I undertook. I got an estimate for this work by piling, and I accomplished it for £4,300 less than piling would have cost. But what I did was not so much to effect that economy of £4,000, but to gain in speed of construction. If I had to start piling on that tower, I should lose seriously in the matter of time, and therefore the work was undertaken under rather unusual conditions and on an unusual system, not only to save money, but also time.

Then a question was raised as to how we got these sacks of cement down to the sand, and how we found the level of the ballast below this mass of sand. The sand was so bad that I found the level of the ballast

by a rod 22 feet long and 1½ inches by 1 inch, which rose by bottom pressure to its full level. That is not exactly an explanation of how I knew I was going to get there. I knew I could get there rapidly by dropping into the sand, and it was unnecessary to undertake excavations when a rod behaves like that.

A question was also raised as to whether I did not refer in some way slightly to architecture. I think such an impression must be due to my inability to express myself clearly. Certainly I am free from having any desire to make a slighting reference to architecture, so much so that I have gone, cap in hand, to the various Government departments during this war, begging them to allow us to act as architects, and not as pseudo-engineers; to act as definite architects who, by the ordinary training of an architect, are empowered to carry out the most difficult process work and adjust buildings to the demands of the industry and the special services of the war. But I did find this—and perhaps it was that which made Mr. Fraser misunderstand me—that whenever we have given the impression on our drawings that we were architects first and pseudo-engineers second—and we were always aiming to give that impression—we always found this work treated with the gravest suspicion. That, I think, is due to the fact that architecture has certainly not yet come into its own. But what has been most illuminating to me, as an architect—and I should try to function as an architect before functioning as an engineer—is that I feel the training of an architect, his adaptation to a problem, his power of organisation in a problem, his power of design, not only as regards the façade of a building, but to meet the requirements presented by a difficult problem, enables him better to carry out this work than an engineer.

With regard to our supplying drawings to members in order to show how we obtained the clear space and spans of over 100 feet, that would be a simple matter, and I should feel honoured if any member of the audience were to apply to me for drawings which would show our great spans up to 150 feet. The system we followed was that of an architect, not the system of some engineers, though I must not be interpreted in saying that as casting any aspersion on the engineer. Whenever we had an exceptional plan or exceptional difficulties we did not meet that difficulty by sending down sketch-designs to contractors and asking them to submit schemes. We ourselves got out our schemes in full detail and sent them out. We said then to the great contractors: "We may be wrong, we may be uneconomical: tender for our scheme, and suggest your own as well." In no case did we follow the contractor's scheme, not because we considered that our scheme was above reproach, but we looked very carefully into every scheme which was submitted to us, and we found our own were the most carefully thought out, because we had looked at the matter from the point of view of the architect who wanted to be responsible for the work in all its details.

and that is not necessarily the case with every engineer, though it is the case with all good engineers.

With regard to the rebuff which architects got from the Government during the war: I want to say that that is the fault of the architects themselves. If I had been President of this great Institute when the war broke out, there should have been no reason to complain that the Government administered rebuffs of this character. It was the function of the President to say to the Government: "We as architects hold that we are capable of doing these factories; we will carry out your Government programme."\* Nobody did it, and it came to us to carry out a small portion because the Institute was not prepared to undertake this programme.

A question has also been raised in regard to north lights. As an architect, I do not like them, they do not give a good façade, they bring in complications which I do not like; but I had to accept that condition because so many of the processes for which the north-lighted buildings were erected were of such grave danger that we had to guarantee that no direct sunlight could reach the floors. One of the problems of north lighting I discovered during the war was that when you get sheds of 480 feet in length with continuous north lighting, with the tremendous length of gutters I found that the temperature stresses on the steel gave us some difficulty, and steps had to be undertaken to counteract that difficulty. Apart from that, however, I have not found any difficulty in north lighting, even in sheds with the large span of 150 feet.

With regard to the large sliding doors, I shall be pleased to supply the information. They were 35 feet high, and 20 feet wide, and 5½ tons in weight. It is essential that those doors shall be capable of being readily moved by hand by one workman. It was injudicious to provide winches to pull the doors in and out, because the whole of the doors had to be entirely cleared to allow flying-boats to move out. Therefore I introduced there what has rarely been done in doors of this kind before, and that is a patent Skefko ball-bearing, so that the windage on the door was immediately taken up by the curved bushes of the Skefko bearing, and in that way the 5-ton door could be readily moved by one person. The danger was that the man had to apply his whole strength to move the door. That was not easy to do, but once it got moving the trouble was to make it go slow. Our object was to prevent it breaking away. Therefore the strictest instructions were given that the doors must be moved very steadily, because, however big the stops which were put on the runner girders, two men rushing the door merrily along would bring it away from the containing girder and stops. But full details of this I shall be happy to supply.

With regard to the kind references which Mr.

Leverton made, it was hard grinding from "early morn to dewy eve"; during 1916 my staff got there at 9.30, and left the office at 2 and 3 in the morning, and that went on night after night, Saturdays and Sundays too. The work could not have been carried out without a truly magnificent staff, every member of which sank all his private feeling in order to carry forward the programme. Programmes were thrust upon us time after time as difficult works appeared, so much so, that we got in many cases the pick of the workmen. In many cases the Department undertook work which they thought was easier, and they presented to us the work which was difficult, work the time for which was too short, and the problems in connection with which were considered rather dangerous and difficult to deal with.

You, Sir, raised a question about the Belfast trusses, and I am very interested in that subject. At the beginning of the war I built many miles of Belfast trusses for storage, and I found very little difficulty occur in connection with them, assuming, as I arranged, that the trusses be carefully disposed in erection. The assembling of the Belfast trusses is the most important factor in their efficiency. Of course, the design is the most important point; but, assuming the design is right, the most important point is to see that the truss is properly assembled, not loosely assembled; otherwise there is excessive deflection, a pulling away of slats, and all sorts of trouble. Excessive deflection makes it impossible to deal with the hanging of shafting of a subsidiary character on the trusses. In one case, at a large fuse-filling factory, I erected many Belfast trusses, and after the shops had been erected I was informed that subsidiary shafting, in three lines, had to be hung to them, and it had not been designed for carrying that. I told the company it was injudicious to attempt to hang shafting to the trusses. They told me the requirement of the Treasury was altered and that it was necessary that the trusses should have the shafting to them. I then boarded the trusses with close boarding, and I found afterwards that that had been thoroughly satisfactory. It had carried three lines of subsidiary shafting without unusual deflection. But later on in the war when the material used in the construction of the trusses was changed in character, I found it necessary to drop the use of Belfast trussing, particularly for large spans of 98 feet and over. At this period, however careful you were in design and in the supervision of the construction, you could not guarantee that you would not have exceptional deflection, owing largely to the soft fibre of the wood. For that reason later in the war we went in for other methods of construction.

\* Reference to the R.I.B.A. JOURNAL for 1914 will show that at the outbreak of the war the Royal Institute did do exactly what Sir Frank Baines says it ought to have done.—Ed.

## ARTHUR RUTHERFORD JEMMETT [F.].

We have to announce with the greatest regret the death of Mr. Jemmett, who passed away on 17th September, after a long and painful illness, at the age of 56. Mr. Jemmett was articled to J. J. Stevenson in 1879, but the contract was terminated by mutual consent in 1882. He entered the R.A. Schools about 1885, gained the R.A. Travelling Studentship (England) of £60 for Design in Architecture in 1888, and in 1891 was bracketed with another for the R.I.B.A. Soane Medallion and received a grant of £25 for travel on the Continent. He worked for some time in the office of Mr. T. E. Collcutt. He attended the International Congress of Architects held in Vienna in 1908, and twice visited America, seeing some of the principal cities of Canada and the Northern States. In partnership with Mr. A. Tayler, he designed and carried out the municipal buildings, baths, and fire station at Tottenham, erected in 1904-5. His design for the L.C.C. Hall was submitted in partnership with Mr. McCombie. The following appreciation by Mr. H. V. Lanchester appeared in *The Builder* of 26th September:—

"The architectural profession has suffered a greater loss in the death of Mr. A. R. Jemmett than many of its members would be aware of. His achievement in actual building work was not outstanding, and while he obtained some successes in competitive designs, several of marked distinction had not the good fortune to secure awards. It was not on his works that Mr. Jemmett's claims to the gratitude of his *confrères* can be based, but on his untiring and altruistic zeal for the advancement of contemporary architecture and the methods for securing this advancement. Ever since his student days the theory of architectural education had received his unremitting attention, and he had always urged that our somewhat haphazard and empirical system demanded strengthening by the adoption of the more reasoned and logical one of France. That this view has now secured such support as bids fair to bring it into general adoption is due in no small measure to Mr. Jemmett's pioneer work. That this did not make itself more quickly felt was owing to his personal qualities. One of the most retiring and unassuming of men, he was disinclined to voice his opinions except to those from whom he anticipated a sympathetic hearing; at the same time, a certain Puritan rigidity with regard to the artistic faith that he held occasionally repelled those who might by circuitous methods have been brought into line. Only those who were admitted into his friendship could quite realise that under the somewhat abstract forms with which he was wont to clothe his arguments burned a bright flame of enthusiasm for the future of his art.

"Mr. Jemmett took the broadest views as to the scope of architecture, and regarded the town-planning movement as a branch of architecture and not, as

some have considered it, an independent science merely calling in the architect to devise embellishments and decorations. His studies in this direction led to his being asked to conduct the monthly section in *The Builder* devoted to this subject, for which he was mainly responsible during the years 1910-11-12. Shortly after this Mr. Jemmett, with two or three personal friends who shared his views, approached the Society of Architects and enlisted the sympathies of that body for an educational scheme on the lines of the Paris ateliers linked up with the Ecole des Beaux-Arts. Under the advice and with the support of several prominent French architects, the first atelier in London was opened, Mr. Davis, as an old Beaux-Arts student, consenting to become the patron, and M. Chaurès, who had also had a distinguished career in the Paris schools, the sous-patron. The atelier soon became a centre of very vital artistic activity, and Mr. Jemmett devoted a large share of his time to its service, frequently suggesting the programme and acting as one of the assessors, at other times working out a project as a student or conducting the very popular life class.

"With the departure of M. Chaurès and Mr. Davis on war service, Mr. Jemmett kept the atelier in being throughout the period of the war, and though the students were few at times, there was always interesting work going on, except for a brief period when pressing demands from the Air Ministry led to everyone available undertaking the work of tracing details of aeroplane construction.

"Despite the fact that he was at that time responsible for the atelier, when the Civic Survey of Greater London was inaugurated in 1915, Mr. Jemmett, as a member of the Professional Employment (War) Committee, was urged by those who knew his special suitability for the position to become honorary director of this undertaking. He accepted, well knowing that this would leave him but little time for his own practice, and acquitted himself in this service with such distinction that, had he been spared a little longer, an opportunity would have been sought to show that his devotion to the work of the survey had not been unappreciated.

"It is possible that the demands on Mr. Jemmett over-taxed his strength, for he was never one to spare either time or energy when he felt that a responsibility rested on him, and his position in the Survey involved many rather difficult questions of principle, to which he gave anxious thought before arriving at his decisions, but which would involve us in too long a digression were we to discuss them here. In brief, all those whose work he directed found in him a considerate friend, and many will feel the loss of one who was near to their thoughts and hearts. Whether an undertaking was going to profit him personally or not was ever the last consideration in his mind, and we could name but few whose activities were so free from any idea of personal aggrandisement."

# HORATIO WALTER LONSDALE.

*Died 8th September, 1919, aged 75.*

In Mr. Lonsdale art has lost a man of marked ability and wide attainments. He was articled to an architect, but turned aside to practise the "arts accessory to Architecture." Though his pursuits were many, probably the larger proportion of his time was devoted to stained glass. In conjunction with the late E. J. Tarver, he published a book on mediæval costume under the auspices of William Burges. He assisted the late Marquis of Bute in his heraldic studies of the armorial bearings of the Royal Burghs of Scotland. He designed the distinguished badge and chain worn by the Mayors of Holborn. He examined the students of South Kensington in mathematical problems, which Alexander Pope's indulgent critic would, in the case of most of us, "propose as things forgot." Pressed one day to take up the study of Esperanto as being so useful in travelling, he was at length driven to stop the enthusiast by telling him that he could already speak the language of every country that there was the least chance of his desiring to visit. He was a hard worker, a kind friend, a delightful companion, and, above all, modest, even to a fault.

LACY W. RIDGE.

## An Appeal from the Ministry of Labour.

*Montagu House, Whitehall, S.W.1.*

On behalf of the ex-service men who laid aside their careers at the call of duty, I make a strong appeal to you to aid them to fit themselves fully for the highest posts in the great professions.

The Government have decided to supplement private effort by means of Maintenance Grants under the Training Grant Scheme, which has been described in the Press and elsewhere. Training for professional qualification is usually best undertaken by service in an office or works, and it is in many cases the custom to charge a premium for pupils who take up such service. More openings for training are urgently wanted, and many ex-service men cannot now afford to pay premiums.

These men have proved themselves ready to give up everything. Their sacrifice cannot be measured in money. But it can be repaid in part. I urge you to think of your debt to them as their premium, and to waive for them the usage of the profession, as many public-spirited firms have already done.

For over four years the normal supply of fully trained men has been stopped or diminished. More must be obtained in the next few years than ever before, if the profession is to recover its strength and face the economic struggle that is before the whole nation. I ask you, therefore, to make room for pupils to the utmost of your capacity and to aid the Appointments Department in the work of resettlement, by telling them of what you can do to help.

R. S. HORNE,

*Minister of Labour.*

NOTE.—Communications should be sent to the local office of the Appointments Department, the address of which can be obtained at any Post Office, or from the Appointments Department, St. Ermin's Hotel, Caxton Street, Westminster, S.W.1.



9 CONDUIT STREET, LONDON, W., 30th September 1919.

## CHRONICLE.

The R.I.B.A. Record of Honour : Sixty-fifth List.

*Fallen in the War.*

SMITH, L.-Cpl. JAMES BUCHANAN PENTLAND [*Licentiate*]. Died in East Africa on active service, 1st May 1917.

*Military Honours.*

COLLINS, Lieut. GEORGE, R.E. [*Licentiate*]. Mentioned in Orders.

CRANFIELD, Lt.-Col. S. W. [*F.*]. Mentioned in Dispatches.

CROWE, Capt. J. J., R.E. [*A.*]. O.B.E. (Military).

GREENE, Capt. W. HOWE, R. Newfoundland Regt. [*F.*]. O.B.E. (Military).

LOFTHOUSE, T. A. [*A.*]. Meritorious Service Medal.

PENFOLD, Sergt. J. T., R.E. [*A.*]. Mentioned in Dispatches, Salonica.

PITE, Lieut. ROBERT W., R.E. [*A.*]. Mentioned in Dispatches, Mesopotamia.

The brilliant record in the war of Brig.-General A. B. Hubback [*A.*] has been already mentioned in the JOURNAL. The following is a complete list of his promotions and distinctions : 1902-14, Malay States Volunteer Rifles, Captain 1902, Major 1910, Lt.-Col. 1912 ; September 1914, Major, London Regt., T.F. ; February 1915, Lt.-Col. 20th London Regt., T.F. ; March 1916, Brig.-General ; June 1916, C.M.G. ; January 1919, D.S.O. ; February 1919, Colonel T.F., retaining rank of Brig.-General ; March 1919, Hon. Brig.-General in the Army. He was mentioned in Dispatches six times and was once wounded. Brig.-General Hubback has now retired from practice and is settling in England.

Peace Day : Messages of Congratulation.

The following messages have been received in reply to the Council's Greetings to the Allied Societies on the occasion of the Peace Celebrations :—

From Canada :

*Toronto.*

"Appreciate greetings. Britain's honour gloriously upheld. Congratulations reciprocated."

A. FRANK WYCKSON, *President,*  
*Royal Arch. Inst., Canada.*



From Australia :

Melbourne : July 25th 1919.

To the President, R.I.B.A.—

DEAR SIR,—Your cablegram just received asking me to convey the warmest greetings and congratulations of the R.I.B.A. to the architects of Australia upon the victorious Peace just concluded. I shall have the greatest pleasure in so doing, and will at once convey these greetings and congratulations to the various Australian Institutes of Architects. With warmest greetings and best wishes from myself to you and the members of the R.I.B.A., believe me, yours sincerely,

GEORGE C. INSKIP [F.].

#### Building Industries Consultative Board.

The following note, headed "Team Work in the Building Trade," giving particulars of the Board's activities, has been circulated to the Press:

A determined and hopeful effort is being made to get rid of the difficulties which are hampering the efficiency of the building trade. Never before has it been so vitally necessary to the welfare of the country that the trade should be vigorous, productive, economical, and smoothly running. Not only are those vast arrears of ordinary building work to be made up, but the gigantic National Housing Scheme demands the utmost possible output of work. Yet at the moment the trade is stagnant, producing little and at an excessive cost, and hampered by doubts, difficulties, friction, and the threat of internal war.

Early in the summer the Royal Institute of British Architects summoned a conference to consider what could be done to restore health to the trade. Dr. Addison, then President of the Local Government Board, and now Minister of Health, came and gave his official blessing to the movement. It was warmly taken up by all the representative bodies concerned, and at the end of May a Building Industries Consultative Board was founded. It contains, in equal numbers, representatives of the professions and trades concerned. Five architects, five surveyors, five master builders and five operatives, with the President of the Royal Institute as Chairman, and Mr. J. P. Lloyd, of the National Federation of Building Trades Operatives, as Vice-Chairman, constitute the Board. It has been meeting regularly at Conduit Street, and it is not too early to say that its work has already justified its existence.

It faced the main problem at once: What is the reason for the stagnation of the trade? Clearly the answer lies in the vastly increased cost of building. Why does building cost so much more than in 1914? Because labour and building materials cost more. Here the Board was faced by an enquiry along two lines. It began with materials. The master builders at once supplied ample evidence of the facts from their own recent experience. Materials had gone up to fantastic prices and the supply was slow and uncertain. Had Government action anything to do with it? The Ministry of Munitions has a Department of Building Materials Supply which has been conducting vast operations. So the Board sent a deputation to the Ministry of Munitions to find out the facts. The Ministry met the Board in a most businesslike way and put its cards on the table. It had had to face the fact that at the date of the Armistice the production of bricks and other materials had almost ceased. The yards were either closed down or in a desperate condition. To get the industries going and bring output back to normal conditions it had helped them with money and with vast orders. The policy had succeeded and the supply of material was now in a fairly safe position. But for the action of the Ministry it is clear that the shortage of bricks and other essentials would have made it impossible to embark on the housing scheme on a large scale. But if the supply is now fairly adequate, what

justification is there for the fantastic prices which are being demanded? The Board, with all the facts before it, came to the conclusion that the time had come for the Government to suspend their operations and leave the laws of supply and demand to settle the price of materials. A resolution to this effect has been sent to the Government, with a further recommendation that the building trade should be left free from any form of Government control or interference. If the Government will act on the advice of the Board it is hoped that in a comparatively short time prices will come back to a reasonable level.

Next came the problem of labour—the other great factor in the high cost of building. Admittedly the supply is short. Many men have fallen in the war, many are still in the Army, the usual flow of recruits to the trade has been largely suspended since 1914, the older men are tired, the demobilised men have not quite got back the power and habit of steady work, many of the operatives have been demoralised by the pernicious system on which so much Government work was done during the war—cost plus percentage as it is called. Wages have gone up largely since 1914. Whether they have kept pace with the rise in the cost of living is a debatable point. The unions say no, the masters say yes. But whatever the truth is, the rise in wages would not matter if output were satisfactory. The masters say that output has gone down deplorably since the beginning of the war. Too many men are not doing anything like a fair day's work for their wages. Whether or not it is officially sanctioned by the unions, there is in fact a deliberate policy of restriction of output by the men. That is the masters' case.

To some extent it is conceded by the operatives. They claim that "real" wages have fallen since 1914, but they admit that the methods of the Government during the war have had a demoralising effect upon many of the operatives and have lowered the level of craftsmanship. They deny that individual output is restricted to the extent that is suggested, but they admit that it might be greatly improved by the introduction of a new spirit and a new tradition into the building trade. They claim that in the past the policy of the unions as regards wages and output was justified by the bad old tradition of rate-cutting among the employers and by the well-founded fear of unemployment which arose from the casual nature of the trade. They say that the men will never be permanently satisfied until a real change is made in the methods of the trade. They are not content, as in the past, to be simply "hands." They want a real share in the control and guidance of the industry in which they have invested their lives and their skill. It is not a question of money but of status and functions. Most employers meet this claim with an absolute *non possumus*. Those who have the financial responsibility must have control of the business. They cannot share it with those who have none. But there are signs that, after all, something can be done to meet the views of the men without ruining the industry. The Whitley Council of the Building Trade is thinking out a scheme on the most idealistic lines. Many minds are at work and the common sense and common interests of leaders on both sides will surely arrive at a solution without the interposition of industrial war, which must do infinite harm to the country and cannot possibly settle the question.

In the meantime the Consultative Board is at work on the organisation of a crusade for the introduction of a new spirit into the trade. It hopes to awaken in the minds of everyone engaged in the industry that "team spirit" that carried the nation through the war to a triumphant issue. It believes that the situation will be saved, not by higher wages and shorter hours, but by a new attitude of mind on the part of all concerned.

#### National Housing: The R.I.B.A. Scale of Fees.

As a result of long negotiations with the Ministry of Health, the Board of Agriculture and Fisheries, and the Scottish Board of Health, a scale of fees for

Architects and Surveyors engaged on housing schemes has been agreed between the Royal Institute and the Government Departments concerned.

The Royal Institute scale recently published has been substantially adopted. The fees for lay-out work have been increased, as it appeared that the work required by the Ministry was greater than was contemplated by the Council at the time when the scale was drawn up. The fees for road and sewer work have been somewhat reduced. The fees for houses and flats have been adopted, together with a limitation of the number of houses entrusted to any one architect in any one scheme, which involves an increase in the fees payable to architects as a body. The general conditions governing the employment of architects in housing schemes have been taken almost word for word from the Royal Institute scale. The fees for quantity surveyors were agreed by the Surveyors' Institution and adopted by the Royal Institute.

It will be seen that the official adoption of the Royal Institute scale and its circulation to all local authorities by the Government Departments concerned will materially benefit members and will do a great deal to place the national housing scheme on a proper basis.

The revised scale published by the Royal Institute and the memorandum issued by the Ministry of Health are printed below for the information of members [see I. and II.].

It will be necessary to summon a Special General Meeting at an early date to obtain the sanction of the General Body for the action taken by the Council on behalf of members and to authorise the insertion of the revised scale in place of the existing Clause 9 in the General Scale of Charges.

## I.

### ARCHITECTS' FEES FOR HOUSING SCHEMES.

SANCTIONED BY THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

(Approved by the Ministry of Health, the Board of Agriculture and Fisheries, and the Scottish Board of Health.)

Special arrangements may be required in exceptional circumstances, but for ordinary cases the following scales of fees and arrangements shall apply:

#### 1.—ARCHITECTS.

##### A.—PREPARATION OF LAY-OUT PLANS.

For the preparation of a plan or scheme from existing maps, showing roads, builders' plots, and buildings in block, including:

- (1) Conferences with local authorities and their officials;
- (2) Surveying, levelling, and preparation of contour plan;
- (3) Lay-out plan (where necessary) to 1/2,500 scale;
- (4) Detailed lay-out plan or plans to 1/500 scale;

but exclusive of the preparation of detailed plans of buildings:

For the first 25 houses .. ..	£1 per house
For the next 75 houses .. ..	10s. per house
For the remainder .. ..	7s. 6d. per house

In cases where the number of houses has not been determined, the fee shall be based on an average of ten houses per acre.

Where a fully contoured plan of the site is provided by the local authority, a deduction shall be made in respect thereof, from the fees above stated, of £1 per acre.

#### B.—ROADS AND SEWERS.

For preparing working drawings, specifications and quantities for roads and sewers in accordance with the lay-out plans prepared under Section A, advising on the same and on the preparation of contract, furnishing to the contractor one copy of the drawings, specifications, and quantities, general supervision, issuing certificates, measuring up, passing and certifying the accounts:

For the first 25 houses .. ..	£2 per house.
For the next 75 houses .. ..	£1 per house.
For the remainder .. ..	15s. per house.

#### C.—COTTAGES AND FLATS.

For taking instructions, preparing sketch design, making approximate estimate of cost, preparing drawings and specifications, obtaining tenders, advising on tenders and on preparation of contract, selecting and instructing consultants, furnishing to the contractor one copy of the drawings and specifications, and such other details as are necessary for the proper carrying out of the works, general supervision, issuing certificates for payment, and passing and certifying accounts:

5 per cent. upon the first 12 cottages or flats.
2½ per cent. upon the next 60 cottages or flats.
1½ per cent. upon the remainder.

This scale covers the ordinary variations in type of house and such modifications as are made to avoid monotony in appearance.

Save in exceptional circumstances, it is not desirable that any one architect or firm of architects should be entrusted with more than 250 houses in any one scheme, but the fees payable in respect of each 250 houses shall be calculated as above, whether or no several architects be employed thereon.

#### 2.—QUANTITY SURVEYORS.

For the preparation of bills of quantities:

2 per cent. upon the first 12 cottages or flats.
1 per cent. upon the next 60 cottages or flats.
¾ per cent. upon the next 178 cottages or flats.
½ per cent. upon the remainder.

This scale covers the ordinary variations in type of house, and such modifications as are made to avoid monotony of design.

For measuring variations on the contract and adjusting the final accounts, the remuneration shall be at the rate of 1½ per cent. on additions, and 1 per cent. on omissions brought into account.

The above scale is exclusive of all disbursements in respect of printing, lithography, and other out-of-pocket expenses.

The above scales of fees are intended to include all necessary duties of an architect and surveyor incidental to the carrying out of the work, including such duties as are involved in complying with the requirements of the Ministry of Health.

Architects' fees for housing are included in, and subject to the conditions of, the "Scale of Professional Charges" issued by the R.I.B.A.

## II.

### GENERAL HOUSING MEMORANDUM No. 4.

Ministry of Health, Whitehall, September, 1919.

#### FEES PAYABLE TO ARCHITECTS AND QUANTITY SURVEYORS IN CONNECTION WITH STATE-AIDED HOUSING SCHEMES.

The Ministry of Health has decided that the fees payable to architects and quantity surveyors in private practice

for professional work which may be charged in the accounts of State-aided housing schemes and rank for financial assistance shall be according to the scales set out below. These scales have been framed on the assumption that properly qualified members of the respective professions will be employed.

No charge to capital account will be allowed in respect of the preparation of schemes which are not approved by the Ministry of Health.

Special arrangements may be required in exceptional circumstances, but for ordinary cases the following scales of fees and arrangements shall apply:

[Here follows the Scale for Architects' and Quantity Surveyors' Fees as set out in the R.I.B.A. Paper above printed.]

The above scales of fees are intended to include all necessary duties of an architect and surveyor incidental to the carrying out of the work including such duties as are involved in complying with the requirements of the Ministry of Health.

The conditions of engagements of architects and surveyors shall be those which are customary in the respective professions; for example, generally, such as the conditions prescribed by the Royal Institute of British Architects in the case of the engagement of architects.

#### Appointments by the President.

Since the last issue of the JOURNAL the following appointments have been made by the President:—

*Arbitrator*: Mr. E. Guy Dawber, *Vice-President*.

*Assessor*: Mr. Ernest Newton, R.A. [F.], West Hartlepool War Memorial Competition.

The President has made the following appointments at the request of the Government Departments concerned:—

Sir Frank Wills [F.], Member of District Selective Committee No. 8B (Bristol), under the Appointments Department of the Ministry of Labour.

Mr. J. W. Cockrill [A.], Member of the Production Committee for Housing Region M, under the Ministry of Health.

At the request of the Secretary of State for India the President has made the following nominations:—

Mr. S. Woods Hill [A.], as Consulting Architect to the Government of Bombay.

Mr. Harold Dicksee [A.], as Assistant to the Consulting Architect of the Province of Madras.

Mr. A. L. Mortimer [A.], as Assistant to the Consulting Architect of the United Provinces.

Mr. A. W. Graham Brown [S.] as Chief Assistant to Mr. R. E. Stewardson [A.], of Shanghai.

#### Changes of Address.

A new issue of the R.I.B.A. KALENDAR is in course of preparation. Members are particularly requested to send to the Secretary as soon as possible a notification of any changes of address they desire to have inserted.

#### The Royal Institute Library.

Members and Students are informed that from October 1st 1919 until June 1st 1920 the Library will be open from 10 a.m. till 8 p.m., and on Saturdays from 10 a.m. till 5 p.m.

#### The President's Visit to the Devastated Area.

Owing to a clerical error, it was stated in the last number of the JOURNAL that the President was

accompanied by members of the Council. The invitation of the French Red Cross was a personal one, addressed only to the President and to Sir Banister Fletcher.

#### Mr. Ernest Newton and the Architects of Belgium.

The Central Society of Architecture of Belgium has conferred upon Mr. Ernest Newton, R.A., Past President, its honorary membership as a mark of gratitude for his services to exiled Belgian architects during the war.

#### Retirement of Mr. William Dunn.

Mr. Dunn has retired from practice and is about to proceed to the South of France in search of renewed health. A few of his friends in the profession joined in giving him a farewell dinner at Pagani's Restaurant before his departure. Among those present were Messrs. John W. Simpson [*President R.I.B.A.*], Henry T. Hare [*Past President R.I.B.A.*], H. M. Fletcher [F.], H. V. Ashley [F.], W. Curtis Green [F.], F. W. Troup [F.], Walter Millard [A.], E. Stanley Hall [A.], Maxwell Ayrton [A.], H. Brown.

#### City of Paris Extension Competition.

The President has received from the Prefecture of the Seine copies of the plans and documents relating to the Paris Extension Competition, which have been presented to the Library of the Royal Institute.

#### "Daily Mail" Ideal Home (Labour-Saving) Competition.

The closing date for sending designs in *The Daily Mail* Ideal (Labour-Saving) Home Architects' Competition, which was to have been October 4th, is indefinitely postponed. It will be announced in *The Daily Mail* when conditions are normal again.

#### "Technical Journals" Reading Room.

The management of *Technical Journals* desires to call the attention of architectural students to the fact that at 29, Tothill Street, Westminster, a specially appointed reading-room has been started, to which they are cordially invited. In addition to the standard architectural works, visitors to the reading-room may consult any of the books in the library.

#### Professional Notices.

Mr. Martin Briggs [F.] has transferred his office to 88 Gower Street, W.C.1, near University College.

Mr. Arthur Knapp-Fisher [A.] and Mr. Lawrence Powell have entered into partnership, and will practise under the style of Knapp-Fisher & Powell at 33 Palace Street, Westminster, S.W.1. Mr. Knapp-Fisher has, in consequence, changed his address from 23 Old Buildings, Lincoln's Inn, to 33 Palace Street, S.W.1.

A demobilised officer desires a junior partnership with a firm of London architects. Qualified for Associateship, R.I.B.A. Apply, K. D. E., c/o Secretary R.I.B.A., 9 Conduit Street, W.1.

Associate R.I.B.A., with upwards of 20 years' general experience, especially schools and institution work, desires to meet another architect with view to partnership or purchase of practice. London or easy reach of London preferred, but not essential. Write, W. B. O., c/o Secretary R.I.B.A., 9 Conduit Street, W.1.



## RAILROAD TERMINALS OF THE UNITED STATES.

By BEN J. LUBSCHER, of New York, Fellow of the American Institute of Architects.

Read before the Royal Institute of British Architects, 26th May, 1919.

**A**SSUMING that any good building should express its function both in plan and design, suit its environment, be truthful in the expression of its structural elements and the technique of the use of the materials of which it is built, indicate the principal elements of its plan in its exterior, and withal be pleasing in appearance, it is easy to establish a broad standard according to which particular buildings, such as railroad stations, may be judged.

The function of a railroad station or terminal is above all to provide in convenient and proper manner a connecting link between the service of the railroad and the public who use that service. Every requirement of plan must fundamentally be based on the idea of making it easier, safer and pleasanter for the traveller to avail himself of the facilities of the lines of transportation. These requirements have been extended until the greater terminals in the United States really house complete communities in themselves. Such terminals as the Pennsylvania and Grand Central in New York, in addition to the usual provisions for waiting rooms, dining rooms, comfort rooms, barber shops, parcel checking rooms, news stands, telegraph and telephone booths, include shops where every variety of goods from flowers to clothing and from drugs to toys may be bought, as well as having huge adjacent hotels which may be reached by underground corridors without exposure to the weather. Some buildings, especially those at New York, Philadelphia, Detroit, and Kansas City, contain the offices of the railroads, and some even contain space for public rental. Most of the larger buildings have been luxuriously built, and the maintenance and overhead charges have mounted to more than fifty cents per passenger.

The environment should influence the plan and design of any building to a great extent, and the physical conditions of the site must do so. The character of the traffic and number of transportation lines must, of course, determine certain important features of the terminal plan, the proper adjustment of avenues of access, whether subway, surface or elevated, must determine other important features; for, to function properly, the railroad terminal must not only accommodate the great traffic lines which it serves but must be conveniently and easily reached by those who wish to travel. A vestibule should not exist for its own sake, it is always a connecting link between the without and the within. As for the exterior, it is not reasonable to think that stations like those at Washington and Kansas City, with great open plazas in front of them, should be designed in the same spirit as the stations in New York City, surrounded by comparatively narrow streets, and year by year being more hemmed in by tall buildings.

Truthfulness in the frank use of each material for its own sake and not in imitation of something else, and frank declaration of structure are somewhat rare in modern building. In this regard your own Prof. Lethaby has some sincere and pertinent words to say in his articles on "Living Architecture," one of which was recently reprinted in our Journal. We build steel frames, cover them in imitation of



structural masonry with stone which serves but little structural purpose, or if stone is too expensive, we use terra-cotta in imitation of stone—an imitation of an imitation. Some years ago, Mr. Leopold Eidlitz expressed it well when he said, "we build in one material, cover it with a second in imitation of a third." This untruth has become so common that it hardly deceives any more and has almost become innocent from its frequent use, as Ruskin says of gilding. The railroad station, if it is to assume its proper place in the city plan, should certainly be truthful and sincere architecture.

Inasmuch as the great majority of travellers enter or leave a city through one of its railroad terminals, the modern terminal is as truly a vestibule or gateway to the city as was the mediæval town gate. And moreover, it is its front and principal gateway or vestibule where guests first partake of the city's hospitality, and as such should be designed in keeping with this fact.

Probably no two architects ever solved this kind of problem in the same way, and unfortunately many architects never attempt to solve the problem, merely making their buildings good looking, and one day the Parthenon serves as the model for a bank, the next for a theatre, and again for a synagogue. So with our railroad stations, many are merely compositions of what is so often mis-called architecture, and for which real architecture is often sacrificed—compositions of more or less original interpretations, or rather misinterpretations, of hackneyed elements. Where serious attempt has been made really to express what should be expressed in the railroad terminal we have results as various as the frank transcription, on a grand scale, of Roman splendour in the Pennsylvania terminal of New York, the rather irritating essay in the style of the Beaux-Arts School of the Grand Central of New York, the cold, impersonal, heavy treatment of the Washington Terminal, the almost brutal detail and scale of the Kansas City station, and the breaking away from precedent in the forms used and the reliance on colour of the comparatively small Rochester station.

Before considering particular buildings it might be well to recall some facts regarding the physical metamorphosis of railway terminal buildings in the United States as well as some peculiarities of transportation conditions and requirements which tend to modify the terminal plan in different parts of the country. A quarter of a century ago the chief characteristic of our large railway stations was the great train shed covering the entering tracks. These were huge engineering works, and often quite impressive on account of their great span and loftiness; spans of from 250 to 300 feet, and heights of from 75 to 100 feet being common. The large South Station in Boston, the old Pennsylvania terminal in Jersey City, the Broad Street station in Philadelphia, the La Salle and Rock Island stations in Chicago, and the stations in Pittsburgh and St. Louis, have such train sheds of huge dimensions. Now, the great train shed, as part of the railway terminal, has disappeared. In New York, where trains are electrified some distance outside the city, the trains enter the terminals through subways. In cities where the trains are not electrified there are separate small sheds, each parallel to and covering two tracks, with ingenious continuous ventilators between sheds. Such is the arrangement in Washington and Kansas City, and was first used in the Delaware and Lackawanna station at Hoboken.

In Boston, New York and other eastern cities, there is a heavy suburban commutation traffic which requires considerable trackage, and which is apt to cause great congestion morning and evening. Most of the eastern stations are terminals, with very little through traffic. In Chicago, the stations are nearly all terminals for lines centering there, and to a lesser extent this is true of the St. Louis station. At Kansas City, however, we have a great way station for many transcontinental lines, with only a comparatively small number of lines terminating. On the western coast the stations are mostly of a combination type—terminals for the transcontinental lines and way stations for the coast lines. In the south there are separate accommodations, such as waiting rooms, dining rooms and comfort rooms, for negroes and whites. Washington presented a problem which was unique. The terminal which would have comfortably served the ordinary traffic to and from Washington would have been entirely inadequate for the great throngs coming to the capital every four years to witness the Presidential inauguration, so the terminal was planned to serve these quadrennial crowds. It is interesting to note

that even these magnificent proportions proved none too large for war-time traffic. The Washington station also presents the unusual feature of a special suite of rooms for the President.

In this country, checked luggage, express (goods shipped on the fast passenger schedules) and mail are usually handled at or near the passenger terminals, while heavy goods shipments on the slower freight schedules are handled quite independently. There are usually entirely independent so-called freight terminals and yards for this slower service. These terminals are ordinarily huge warehouses where goods are received on arrival or for shipment, and are plain buildings fulfilling the mere utilitarian requirement of enclosed space with convenient platforms for loading and unloading, adjacent to the railroad tracks. These structures will not be discussed in the following paragraphs which describe the more important terminals in the United States, taken in geographical order.

The South Station in Boston was built about 22 years ago by Shepley, Rutan and Coolidge, architects. It is one of the largest and busiest stations in the country, more than 700 trains arriving and departing daily. It has a great train shed; the plan is not noteworthy, in fact it has developed serious faults with use. In design it is extremely simple, going but little beyond the utilitarian requirements of its purpose.

The Grand Central terminal in New York City is one of the newest and most complete terminals in the country. Reed and Stem, with Warren and Wetmore, were the architects. The station building proper is 800 feet wide and 688 feet long. The plan is a brilliant one. Electrified trains enter on two subway levels, one for express trains and the other for local and commutation trains. There are no stairways for use of travellers, all levels and storeys being connected by inclined planes or ramps of easy grade. The principal entrance leads by a short easy ramp into the large general waiting room, from here another short ramp leads into the great express concourse on the main level. Beneath this concourse is one similar in size, but with lower ceiling, for the local and suburban trains. Gates for direct access to each track open from each concourse. The principal features of the plan are simply arranged. Travellers arriving or leaving on express trains must pass through the architectural heart of the plan, the grand concourse. The subground-level arrangements of the terminal are extremely ingenious. The building connects, underground, with an interurban subway station and three great hotels. Shops of every description, where nearly every necessity of life may be bought, line the underground arteries of circulation. Ticket offices, parcel room, branch post office, open on the express concourse. Telegraph and telephone booths and minor parcel rooms occur in various parts of the building. The general waiting room is for both sexes, but off it at either end are rest and comfort rooms for men and women. The general dining and lunch rooms are on the lower concourse level, under the waiting room. The track yards are below the surface of the ground. This area is roofed over and used for streets and building sites. It is difficult to describe in words the stupendous layout of the Grand Central terminal. From the standpoint of serving as a connecting link between the travelling public and the railroad service, this terminal is undoubtedly a success, one of the really great modern plans.

In design this terminal is not nearly so successful. Influenced by the Modern French School, it is rather pyrotechnical in quality and possesses neither marked dignity nor impressive beauty. The vast dimensions are often dwarfed by the great scale of the parts. The distinguishing feature of the main façade is the range of three arched windows, each 33 feet wide and 60 feet high. The piers separating these windows are hollow and the great windows are double glazed. At different levels in the space between the outer and inner glazing, are glass floors, thus continuing, through crystal corridors, the circulation around the large lofty rooms, at the levels of the various stories in other parts of the building. The principal front is surmounted by a clock and group of sculpture representing Mercury flanked by Minerva and Hercules. This sculpture is of such colossal scale that the magnificent dimensions of the whole front are dwarfed, and its real dimensions are never realized. Here and there, the interiors are more successful, but on the whole the interior design suffers from the same faults as the exterior.

The terminal building contains the railroad offices as well as space for rental.

The Pennsylvania terminal in New York is perhaps the most important work of McKim, Mead and White, and shows a great deal of Mr. McKim's influence. Like much of this firm's work, it is planned after the Italian fashion of fitting the whole scheme to the end of gaining architectural effect. Perhaps no finer example of a Classic Order exists in this country than the Roman Doric—almost Tuscan—Order of the Pennsylvania station. Perhaps no finer roofed space exists in this country than the magnificent general waiting room of this station—a room frankly adapted from the baths of Caracalla. One cannot help feel, however, that although the traveller may be rewarded by many beauties of plan and many impressive vistas, his comfort and convenience were not the most important considerations.

The principal entrance is through a stately arcade lined on both sides with shops. At the end of this arcade are the restaurant and lunch rooms on either side, and a flight of stairs leading down into the magnificent general waiting room. At the ends of this great room are flights of stairs leading up to the side-street entrances. The general waiting room is entirely finished in what seems to be Travertine marble, but one's enthusiasm is slightly dampened when he learns that above a few courses from the floor, the finish is but an exceedingly clever imitation of Travertine. The first impression of this glorious room with its soft colouring, its subdued map decorations by Jules Guerin, and the sunlight streaming in from some of the great clerestory windows, is an unforgettable one. This general waiting room contains the ticket offices, parcel rooms, telegraph and telephones, entrance to the baggage room, which is under one of the restaurants, and an entrance to the subway station. Adjacent to it are the driveways for incoming and outgoing cab service. But despite its name this great room is not a waiting room—there are no seats in it—it is only a magnificent architectural note in the scheme.

Opposite the entrance arcade, on the other side of the general waiting room, is a short passage into the Grand Concourse. On either side of this passage are two comparatively small waiting rooms, one for men and one for women, and accessible to these, but on the lower level, are appropriate rest and comfort rooms.

The Grand Concourse is a space about twice the size of the general waiting room. In it are the train gates opening on long flights of stairs leading to the train level below. Off the Concourse are stairways leading up to the surrounding streets. In this Concourse the interior steel columns, arches and trusses are left exposed. Where this structural work abuts against the masonry walls the juncture is not a happy one. One admires the frank declaration of structure but laments the ungraceful joining with masonry, especially when it is realized that often this masonry is but a useless covering for a continuation of the steel structure. The plan looks well on paper, its parts are well proportioned and balanced, but its great defect is that its principal feature, which should be the heart of the building, is but a designer's *tour de force* and not a functional centre, for the traveller may enter the terminal and board his train, or leave the terminal without passing through the so-called general waiting room which is so expressive of the city's welcome and hospitality. There are many other exits and entrances, more direct and convenient than the important line of circulation through this great room. The main features of the plan are fairly well indicated on the exterior.

The ground area of the Pennsylvania terminal is 455 feet by 800 feet. The general waiting room is about 100 feet by 800 feet. Across the street at the front, and directly connected with the terminal by subway, is the new Pennsylvania Hotel. Across the street at the rear, and built over the tracks, is the new General Post Office.

The Hudson terminals in lower New York are really huge office buildings occupying two squares. The basement and sub-basements are continuous for the two buildings, and are utilized as the terminals for the Hudson Tubes. These tubes include a connection to Manhattan Transfer, a station on the main line of the Pennsylvania Railroad a few miles out in New Jersey. Thus the Hudson terminals serve as a downtown terminal for the Pennsylvania. The tubes also serve as connections for two other railroads. The principal traffic is suburban, and the trains are all electrified. The terminal space is ingeniously planned, and includes all the accommodations of a complete railroad station, as well as many

shops of every description. Some idea of the size of this terminal may be gained from the fact that the twin buildings house approximately 12,000 persons. The exteriors are designed entirely as office buildings and have no relation to their use as terminals. Clinton and Russell were the architects.

Philadelphia has two stations of importance, the Broad Street Station of the Pennsylvania Railroad and the Philadelphia and Reading station. In both the tracks come in on elevated structures, and are covered with great train sheds. The space below the tracks in the Reading station is utilized as a market place. The head-house in each station contains the waiting rooms and other necessary rooms. Neither building is noteworthy in plan or design.

The Washington station is one of the largest and most elaborate of American stations. Its site was determined by the so-called McKim commission on the plan of Washington, and its architect, Mr. D. H. Burnham, was a member of that commission. The building fronts on a large semi-circular plaza at the intersection of two wide avenues. The plan is simple. The principal entrance is through the great arcade at the front directly into the barrel-vaulted waiting room, 220 feet by 130 feet in size. At one end of this waiting room is a space leading to the cab concourse, and on either side of this corridor are the ticket offices, parcels and baggage rooms. At the other end of the waiting room are the restaurants, beyond which, and entirely shut off from the rest of the building, is the President's suite. Back of this main waiting room is the concourse, 760 feet long. On this concourse open the train gates leading to the different tracks. Most of the tracks, and all the principal rooms of the station, are on the ground level. The plan is spacious, simple and direct, but has the defect of not compelling the traveller, by directness and convenience, to pass through the most important room of the scheme, the main waiting room, on arrival or departure. For those arriving by cab, especially, it is more convenient and direct to go straight to the concourse unless such travellers wish to buy tickets or attend to luggage, which they must go more or less out of their way to do. The exterior is dignified and impressive, expresses the plan well, but is rather cold and impersonal. It holds its scale well. The interiors are far less successful, and are not only cold and impersonal, but heavy in effect.

As was stated before, the Washington station was built to accommodate, not the normal travelling to and from Washington, but the great quadrennial inaugural crowds. This being considered an unjust burden on the railroads, the cost of this terminal was shared by the Government and the two principal railroads using it, the Pennsylvania and the Baltimore and Ohio.

The Rochester, N.Y., station, although comparatively small and simple, is noteworthy for its frank structure-revealing design and the use of coloured brick and faience for decoration. The plan is exceedingly direct and simple—an ample waiting room with the necessary utilities kept as compact as possible and grouped conveniently around it. Mr. Claude Fayette Bragdon was the architect.

The Pennsylvania station in Pittsburgh consists of three parts: a great domed *porte-cochère* or cab concourse and entrance, back of this a tall office building, the main floor of which is used for waiting rooms and other needed rooms, and back of all this the lofty train shed covering the tracks. The architectural effect is not indicative of a railroad terminal, yet the scheme fits the physical and practical requirements of the site well. The architect was D. H. Burnham.

The architectural mass of the Michigan Central station in Detroit is somewhat similar to that of the Pittsburgh station. Here we have a low, pleasingly-designed building expressive of a terminal, backed by a tall office building. The total result is neither congruous nor pleasing. The station plan continues through the main floor of the office building. The train sheds are of the modern low pattern. At the side is a surface car loop and cab concourse. Reed and Stem, with Warren and Wetmore, the architects of the Grand Central in New York, were the architects.

In Chicago there are six important railroad stations, each accommodating from one to several lines. Of these, one, the Chicago North-western, is of comparatively recent construction and thoroughly modern, though the planning is not as convenient as it might be, and there is considerable climbing up and down of stairs to make necessary connections. The old Union Station, so-called, used by the Penn-



sylvania, the Burlington, the Chicago and Alton, and the Chicago, Milwaukee and St. Paul railroads, is being replaced by an extensive and elaborate structure which has been much delayed by war conditions. It is said that this new station, of which D. H. Burnham & Co. are the architects, will rival the Pennsylvania and Grand Central stations of New York in completeness of lay-out and dignity of design. Of the older stations, the La Salle is perhaps the most noteworthy. It is used by the Wabash Railroad, some of the New York Central lines, and other important railroads. The main floor of this is one storey above the ground level, on the same level as the elevated tracks and the station of the inter-urban elevated line. The tracks are covered by one large train shed. S. S. Beman was the architect.

The St. Louis Union station, Theodore C. Link architect, was built almost a quarter of a century ago, and for several years was considered the finest and best equipped station in the country. It is of the great train shed type with the main waiting room a storey above the track or ground level. As is usual in this type of station, the ground level space under the waiting room is used as a concourse and additional general waiting space. The design is a modified Romanesque with a tall clock tower, and altogether is indicative of the plan. At one end of the building is a semi-detached wing used as a hotel.

The New Union station in Kansas City, Jarvis Hunt architect, takes high rank for effectiveness of plan. It is shaped like the letter "T," 550 feet by 600 feet. Its main front is along the head of the "T." The tracks run parallel to the front and cross the stem of the "T" a full storey below the main floor level. The entrances are through two wide arches in the main front, which lead directly into the great lobby. At one end of this lobby is a corridor leading to the cab concourse, with baggage and parcel rooms on each side of the corridor. At the other end of the lobby are the restaurant and lunch room. So far the plan of the head of the "T" bears a marked resemblance to the plan of the main part of the Washington station. At the centre of the entrance side of the lobby is a series of ticket booths arranged on a semi-oval projecting into the lobby. Opposite these ticket booths is an archway leading into the stem of the "T," which is the general waiting room. At each side of the general waiting room are wide corridors leading back to the general lobby. In these corridors are the stairways and elevators leading down to the track level, one set for each pair of tracks. Departing travellers use the train gates at the sides of the waiting room which lead directly to the stairs and elevators in the corridors. Arriving travellers pass down the corridors directly into the general lobby. Thus departing and arriving travellers never interfere with each other, and no traveller can reach the trains or reach the street from the trains without passing through the general lobby, around which all the utilities are conveniently arranged, and which is the feature of the scheme. Baggage is handled on the track level beneath the general lobby, mail and express in two low, track-level wings at either end of the building. The train shed system covers an area of about 500 feet by 1,500 feet, and is composed of low, individual sheds with continuous ventilators between them. Various railroad offices are placed in the upper storeys of the end wings of the front, in which are located the dining rooms, baggage and parcel rooms on the main floor. The building fronts on a plaza 300 feet wide, beyond which is a park. The design is overwhelmingly large in scale and brutal in detail, but is a frank, straightforward expression of the plan. There has evidently been a serious effort made to express the function of a gateway and vestibule to the city.

The waiting room is so intimately related to the train gates that there is perhaps less waiting in line at the train gates in this station than in any other large station, despite the fact that this ignoring of the waiting room is a popular habit of the restless American.

The Burlington station in Omaha, Walker and Kimball architects, is a small building of considerable charm in plan and design. It is a simple, almost severe, low domed Classic building. The pedimented portico leads into a large room under the dome. In the centre of this room is a great double circular staircase leading to the room below on the track level. The stairways are so arranged that one flight of the pair passes beneath the other, with obvious advantage in separating incoming and outgoing travellers.

Many important buildings have been omitted from this description mainly for the reason that the writer was less intimately acquainted with them than with those described, and again for the reason that the most important ones given have established types which to a greater or less extent have served as prototypes for later buildings. Worthy new buildings have been erected in recent years in Minneapolis, Denver, Dallas, New Orleans, Birmingham, Memphis, Richmond, Baltimore, Utica, N.Y., New Haven, and other cities. In the south-western part of the country, where the traditions of the old Spanish missions are still deservedly alive, several interesting stations have been built in this style. Those in Albuquerque, N.H., and San Diego, Cal., are good examples. Many small suburban stations of worth have been built throughout the country, among these, those designed by H. H. Richardson some twenty-five or thirty years ago for the Boston and Albany Railroad, still hold a distinguished place.

## DISCUSSION ON MR. LUBSCHEZ'S PAPER.

MR. JOHN W. SIMPSON in the Chair.

[The CHAIRMAN, prior to the reading of the Paper, explained that it had been prepared at the instance of the Sessional Papers Committee, who addressed a request to the President of the American Institute of Architects that he would nominate some member who would give the R.I.B.A. the latest information about the great American terminals. He had nominated for this task Mr. Lubsczez, who, however, they greatly regretted, could not be present to deliver the paper in person. The President then asked Mr. Arthur Keen to be good enough to read it to the meeting.]

MR. PAUL WATERHOUSE, F.S.A., in proposing a vote of thanks to the author of the Paper, said:

We may feel grateful to the writer for drawing our attention particularly to two things. One is the use of the grand manner in stations. This is very important, because the grand manner is essential for making monumental the things which are in large public use, and there is nothing larger in public use than stations. These, it has been well said, should express welcome to those who are coming in, and a kindly farewell to those who are going away. We ought to make our stations the best looking things in our town, for that reason if for no other. The other subject is the very important one which may be embodied in a sentence: that stations are intended not merely to make trains comfortable, but to make people comfortable. It seems to be better recognised in the States that the passenger is the important person: after all, he is the one who pays. When we get nationalisation of railways, which I hope we shall not, there will not be the competition between the various lines who cater for the public, and we shall have reason to fear a drop in the standard of public comfort. I think we ought to insist upon maintaining it. To us in England, in London in particular, this question of station building is bound to be of overwhelming importance in the near future. And the Americans can help us for this reason: they pick up all these affairs by the big end, and we pick them up by the small end. That is not our fault. We have been pioneers in many ways, but we have acted with

timidity. You have only to think of the way in which the London and North-Western Railway first slunk into London. They said, "We will have a railway to London," and then fear came upon them, and they said, "It will never do to have a real live engine coming into London as far as Euston Road, it is impossible"; so they brought the engines as far south as Chalk Farm, and conveyed the passengers from there into London by another means. The Americans can teach us lessons as to how to deal with these things. The records of their stations, of their plan and design, will be of use to us as examples and, no doubt, as a warning. The writer of this paper has drawn attention to things which he considers faults, as well as to things which he regards as virtues. We have only to look at our railway stations in London to realise what has been done and what has yet to be done. St. Pancras, which was built with extraordinary forethought in the minds of both architect and engineer, is a long way ahead of other stations in London, and I shall always consider it one of the finest things in design and enterprise. Alongside of it is King's Cross Station, a curious example of a combination of boldness and timidity. The timidity should not have been there; if it had been bold all through it would have been a success. Liverpool Street Station is a case of decency without dignity. Dignity could have been there; it has great size, and has got enormous crowds to deal with, crowds which it cannot quite cope with even now, with all its enlargement. In Waterloo we see a laudable effort being made, and there is something of the grand style about it. It is our nearest approach to a proper station, and it is not completed yet. In Victoria Station there is a great effort, but hampered because it has gone in for length and not width; you do not want to walk a long way to the train when you get into the station. But that is not Victoria's fault; there isn't room for it to expand sideways, and therefore you have a long platform to traverse before you get to your train. Inevitably, certain stations will have to be rebuilt. All of us are optimists enough to know, as well as to

hope, that Charing Cross Station must go. Some of us hope Cannon Street will also go. At any rate, changes must be made. London Bridge Station, if it is not rebuilt, will drop to pieces some day. And we must rebuild them in the grand manner, and if we can get a hint from our friends over the water, so much the better for us, and we shall thank them for it. Now a word about the question of style and sincerity. As to style, I think there is every reason for copying the Romans. Had the Romans been spared to the present time, they would have beaten all the world in the matter of railway stations; it would have been just their job. We can see, by their larger basilicas and their big baths, how well they would have dealt with it. There is no need to hesitate in following classical models; the remarkable way in which the great free nation of America has placed itself under the happy bondage of classical architecture shows once more the claims that architecture has upon those classical models. With regard to sincerity, it is pointed out in this paper that sometimes the sincerity business has failed. In the McKim, Mead and White station the egregious use of bare steel columns makes artistic bathos when it comes against walls which are built in ordinary masonic style. We have got some way beyond Ruskin now; I do not say we shall forget him—we laid our foundations of art upon Ruskin, and he taught us invaluable lessons—but there was a great fallacy in Ruskin's doctrine of sincerity. If you say you must be able to see from the outside all that is within, you will blame the Creator, because no one wears his digestive apparatus outside! Covering is a legitimate process of art. Steel is unpleasant material to run up against in a railway station; it is nicer to run up against other materials, and it is nicer to look at other materials. And I can see no artistic or Christian reason why you should not cover up a steel stanchion with something nicer. There is no artistic harm in covering where such covering serves a useful purpose. One other small point. There is little mention of lifts here, and much mention of staircases. Mounting staircases can be a very toilsome business in a railway station, but toiling up ramps is very much worse. I am sure great attention will have to be given to the question of level, partly because in large stations we may have two levels for trains, or at all events, trains above and below the passenger platforms. And in crowded cities, like London, we are faced with the level difficulty in that the trains must come in either above the level of the adjoining roads, or below the level of adjoining roads. In places where the lines run out level with the street, the street system for half a mile along it is bisected and divorced one side from the other. We have a large system of overhead railways in the South of London, and a smaller system of subsoil railways in other parts, so the level question in the designing of railways is a very important one.

Mr. DELISSA JOSEPH [F.], in seconding the vote of thanks, regretted the absence of illustrations.

Few things, he said, were more stimulating than the study of photographs and drawings of American buildings. So many of those buildings were marked by such distinguished individuality, by such an astonishing power of facing and dealing with new problems, often with brilliant success, that those present would have been glad of the opportunity that evening of looking upon some of the remarkable examples of work described in the paper.

Mr. W. J. H. LEVERTON, *Licentiate*, observed that the author had referred to an American station in which the incoming traffic was kept separate from the outgoing. This was often neglected in London termini. At the Brighton station at Victoria, the incoming and outgoing traffic was hopelessly mixed, and led to much congestion and delay. Illustrations, of course, would have been interesting, but the descriptions were so clear that the plan and design could be very well followed without them.

Mr. EDWARD W. HUDSON [A.], remarked that his sojourn in America had not allowed him to visit many of the places named in the paper. But from some knowledge of the Pennsylvania Station in New York City he could say that it was a very noble example of the style in which it was designed, although as an old Gothic student he was not particularly interested in the style. It was much more sober and restrained than the Grand Central Station—a specific piece of Beaux-Arts work. The designers of that station, and those who assisted them, were, he believed, practically trained in Paris. The interior decoration work, the frescoes and the bronze and marble work, were certainly very fine. Some of the stations in rural places in the States had no architectural interest, but on the whole those in New York were very successful.

THE CHAIRMAN, in putting the vote of thanks, said:

Mr. Waterhouse has dealt very fully with the paper, which was an admirable one, and it struck me as being marked with an unusual gift of imagination. The paper suffers, of course, as Mr. Joseph said, from not being illustrated, and that is a very great drawback; but I think I have rarely read a paper—and I had the privilege of having a copy before me—in which I was able more easily to visualise to myself the plans which were being described. I thought it very excellent. And there was a touch of imagination in the writer's description of the objects of a station, that, after all, the arrival station in a city is the great Propylæa, the gate of entrance to the city itself; that is how the stranger first sees the city. Here, we come through lines of chimney pots when we arrive at Liverpool Street station, and I can imagine nothing more depressing. And the reason, I think, as Mr. Waterhouse pointed out, that the London stations are so lacking in mass and in breadth of arrangement is that they were not planned by architects, but by engineers. Engineers have no imagination, they never could plan a building.

After they have planned a building all wrong, the architect is called in, and requested to put a coat of architecture on it—as though he could do it with a pot of paint. Fine architecture can never be got in that way. If it is to be planned, the technical knowledge of the engineer must be called into play, but he must have with him an architect who is used to co-ordinating the whole of the conditions which are necessary to create a great plan, to plan a railway station. Without that, we shall never arrive at a great plan for our railway termini.

Mr. KEEN, responding to a vote of thanks passed to him for reading the paper, said that by a curious coincidence on the only two previous occasions when he had read architectural papers for their authors both papers were from America. The last was by Mr. Mulford Robinson, which he read at the Town Planning Congress a few years ago, one of the most beautiful pieces of English composition he had read. The other was by Mr. Clipston Sturgis, read at the Architectural Association: a very finely composed paper, and profusely illustrated. It was a great regret to him that this most excellent paper by Mr. Lubschetz had not the accompaniment of a series of lantern slides, to show what the stations looked like.

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#### THE LATE H. W. LONSDALE.

Being one of the few remaining old friends of the late H. W. Lonsdale, I thought it might interest your readers to have a slight account of the life of one of such considerable and versatile ability.

His family has furnished some distinguished naval and military men. But the subject of this short memoir was the only one of the family that showed any considerable talent for the fine arts, though his mother had some knowledge of miniature painting. His father held a Government appointment in Mexico, where Lonsdale was born. At a very early age he was sent to England to commence his education. Then he went to France and Germany to complete it. Spanish he readily acquired from his early life in Mexico. Italian I think he learned after gaining a Travelling Studentship at the R.A.

I think I am correct in saying he was articled to Mr. Kindel, the architect, and entered as a student at the R.A. Soon after his travels in Italy, Sicily and Greece, he entered the office of the late W. Burges, A.R.A., who with his usual discernment quickly realised Lonsdale's ability. Together they drew up a scheme for the glass and mosaic pavement for Cork Cathedral, on which Mr. Burges was engaged. This led to Lonsdale taking up decoration. I, with many others, feel that in this way a very able architect was lost to the world.

He completed the glass and decoration for Cork Cathedral and the glass and decoration for St. Mary's, Whitechapel, for his brother-in-law, Mr. Ayton-Lee. He designed and carried out the decoration of Cardiff

Castle, under Mr. Burges, for the late Marquis of Bute. After Mr. Burges died Lord Bute came to him for decorative, heraldic and historic work. Also for seals, bookplates, etc. Many of his architect friends came to him to design and execute windows for them.

Lonsdale was no poor exponent of the art of painting, though he had a very modest opinion of his powers. His two-hour sketches were greatly admired by many distinguished painters. He studied from the life at the evening class at the Slade School, and showed considerable pluck when a middle-aged man in going to Antwerp to study painting, afterwards working at night at the Langham. His great pleasure was to go away sketching with a brother artist, and he has left many beautiful records of such trips. He was also a great authority on Perspective, holding the post of Examiner at South Kensington under the Board of Education for some years.

His unselfish disposition and most lovable qualities endeared him to all his friends, and his knowledge was always at the disposal of any that sought it.

He joined the Architectural Association in 1864, and took a considerable share in starting the *A.A. Sketch Book*; many of his drawings will be found in the earlier volumes. In 1873, in conjunction with E. J. Tarver, he published *Illustrations of Mediæval Costume*. He was elected an Hon. Associate of the R.I.B.A. in 1896. He died of heart failure at his brother's house in New Brighton, Cheshire, and his body was laid to rest in his parents' grave in Teddington Cemetery, close to the spot where his sister and her husband, E. C. Ayton-Lee, were buried.

R. W. MADDOX.

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#### Decimal Coinage.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—I was privileged, at the command of the President, to represent the Royal Institute at a meeting at the Mansion House, under the chairmanship of the Lord Mayor of London, on 14th October, on the subject of Decimal Coinage. After a short address from the chair, in which the importance of the subject was acknowledged, the meeting was addressed by Sir Gilbert Molesworth, who successfully introduced decimal coinage into Ceylon in 1875, after five years of opposition, and who gave an account of the ready way in which it was accepted and of its beneficial results. Mr. E. C. Barton then gave a vigorous speech, in which he said that Australia had wanted this coinage change for years, but could not take action effectively unless the mother country did so. He expatiated on the great saving in the matter of book-keeping and the importance of this aspect in view of increased salaries. He said that progressive firms thought machinery more than fifteen years old was detrimental, but that our system was a thousand years old and that every civilised country but ourselves (even Persia and Siam) used the decimal system. In an interesting historical review the speaker pointed



out that a bill embodying the present proposals was introduced in 1824, and that after the destruction of our standards by fire the matter was again brought up in 1856. The present system, he contended, was not made for the needs of to-day; and, as indicating changes, he mentioned that only 120 years ago the Bank of England gave wooden tallies as receipts for money. Though an international coinage was impracticable, in which connection the disastrous scheme of Louis Napoleon was cited, bankers, chambers of commerce and the Decimal Association all favoured the scheme before the meeting, which had had very careful thought and discussion. This is to retain the pound, double florin, florin, shilling and sixpence, the two last to be denominated half and quarter florins respectively to make two new nickel coins, the ten and five mils, and to call the penny, halfpenny and farthing respectively 4, 2 and 1 mil. The crown, half-crown and threepenny piece would be withdrawn. Arrangements would be made for withdrawing the present bronze coins at their present value, 25 mils being exchanged for each 6d. in coppers. No decimals need be used. Thus, £1.250 would be £1 2f. (florins) 50m. (mils). These arrangements and the many advantages of the system are set out in a pamphlet entitled *Decimal Coinage*, published by the Decimal Association, of 212, Finsbury Pavement, E.C. Other speakers followed and a resolution was carried urging the Government to take immediate action at a time considered especially propitious.

I must hardly trespass on your space by comment, but any scheme to reduce calculations and to bring us more on to common international ground must, I venture to suggest, merit all the support the Royal Institute can give. Incidentally, there will be many people who will miss the half-crown, and, what is more important, it would seem desirable to find means for preventing every penny article rising to the value of 1 mil—one-tenth of the half-florin—equal to 1·2 current price.—Yours, etc.,

ALAN E. MUNBY [F.].

#### Liverpool Architectural Society: Sessional Programme.

20th October.—Paper by Sir Ambrose Poynter, Bart. [F.]: "Architecture in South-East Italy."

3rd November.—Address by Lord Leverhulme [Hon. F.].

17th November.—Dinner to Overseas Members of His Majesty's Forces.

8th December.—Paper by Capt. E. J. Rimmer: "Building Contracts."

19th January.—Paper by Major Gilbert W. Fraser, M.C., R.E. [F.]: "An Architect at the War."

9th February.—Paper by Mr. Walter J. Hide: "Electric Installation of Small Houses."

23rd February.—Paper by Mr. J. Henry Sellars: "An Architect's Use of a Library."

8th March.—Paper by Mr. Herbert L. North [F.]: "The Flower Garden."



9 CONDUIT STREET, LONDON, W., 22nd October 1919.

### CHRONICLE.

#### Peace Congratulations: Response from America.

Omaha, Nebraska: 26 Sept. 1913.

DEAR MR. SIMPSON,—The American Institute of Architects, through the Executive Committee of its Board of Directors, acknowledges with deepest appreciation the message of greeting and congratulation contained in your cablegram, and trusts that a closer and a deeper sympathy may in future bind together the architects of our several countries—one of the profound benisons that shall justify the war and its cost and to which we, in our full acceptance of the final justice of all things, confidently look forward.

In the delay of this response is voiced the desire to have it shared in by the Executive Committee of the Board of Directors, whose recent action this note records.

Believe me, my dear confrère, most sincerely yours,

THOMAS ROGERS KIMBALL,

President, American Institute of Architects.

#### Desolation and Distress in France.

The following notes by the President, Mr. John W. Simpson, describing his impressions of a recent tour through the war-ravaged districts of France and Belgium, made at the invitation and under the guidance of the French Red Cross, appeared in *The Builder* of the 3rd inst.:

Insistent among the rather blurred impressions of a rapid journey through the battlefields of Northern France is the picture of barbed wire and shells. Rusty wire and rusty shells. Wire in tangled masses, wire neatly tied in faggot-like bundles, wire in rolls, shells and shell cases—great and small—in thousands of thousands. Wire and shells piled along the roadside, wire and shells collected in innumerable, immense "R.E. Dumps," enclosed with still more wire. Lorries, too, in incredible numbers, close ranked in long-stretching streets; rusty and filthy like the shells and the wire they once carried, standing incongruous and unsheltered in the open fields. Above all, the sense of bareness. To those who know France, the destruction of the trees, which shaded the roads and made them so beautiful, is even more shocking than that of the towns. The latter can be rebuilt, though their

historic interest is obliterated; but trees take long a-growing, and many a generation must pass along white, sun-scorched tracks, and curse the vile Boche who has sawn through every single trunk, leaving but a foot-high stump. Nor, on the authority of competent soldiers, was there any military pretext for this outrage, done in mere malice by beaten barbarians. Such trees as remain upon the countryside are dead, mutilated and flayed by shell-fire. The lovely woods are indicated only by scattered groups of ragged, broken poles bereft of foliage. The extent of the desolation is appalling. A tract of country fifty kilometres wide, which extends for hundreds of miles, lies ruthlessly and systematically devastated. Not so much as a labourer's cottage has escaped.

So far as the revival of agriculture is concerned, fair progress seems to have been made in some parts, and crops are being got in. Thousands of Boches are filling in shell-holes, trenches and dug-outs, clearing the fields of the eternal wire, and collecting shells. Big, upstanding fellows these prisoners are—taller on the average, one would guess, than our own men—their physiognomy distinctly brutal as to a large proportion. Though their uniform does not show them to advantage, they look well-nourished and in good condition; the French soldiers, indeed, complain that the Germans are better fed than they are themselves. The "Chinks," too, of the Chinese labour battalions are of surprisingly good physique; picturesque figures in their light, thin clothing, they seem less out of harmony with their surroundings under the blazing sunshine than the Teutons of the P.O.W. camps.

In other sectors the fields remain as the war left them; torn and pitted by high explosives, their surface churned into uneven masses as by an earthquake. High roads everywhere are cleared, and shell-holes filled in more or less; but there is nothing of the "joy-ride" in motor travelling, and when running over the uneven, defective "chaussées," cars and passengers alike approach the limits of their endurance.

Of the ruined towns there is little to be said, save by way of memory of what they were. One heap of building rubbish is much like another; maps and sign-boards may tell you that these broken masses of stone and brick, to which tenacious fragments of roofs and floors still cling, were once La Bassée, and that those were Peronne; there is nothing but the site by which to identify the busy, interesting town we once knew. Some, like Arras and St. Quentin, are still standing, though, so far as could be seen, without a building, small or great, undamaged. The returning inhabitants fill their glassless windows with oiled paper or other semi-transparent material, patch the roofs, walls and ceilings as best they may with sheets of corrugated iron, or whatever is available, and resume their interrupted life. St. Quentin market-place is brisk and busy, despite a gang of Boches digging for an unexploded mine by the Hôtel de Ville, under guard of two "poilus" with persuasive-looking bayonets.

Speaking broadly, reconstruction is not even

touched at present; the buildings, where not demolished, are insecure to danger point, and it is to be feared that many will collapse when heavy weather sets in. The sewers under the shell-cratered roadways must be in lamentable condition, and epidemics would cause no surprise. Heating, lighting, water supply, are all lacking, or at best very defective; winter will bring much misery to these hapless communities. Yet the refugees will not be denied; they make their way back even into such places as Lens, where streets and houses are mere chaos of brick refuse, slates, and rafter-ends. They seek out what they decide to be their former dwelling, construct a lean-to of rough boarding or sheet-iron, and support life as they may; it is often hard to say how, for in some places the very roads are destroyed, and these poor campers-out are quite inaccessible by wheeled traffic.

Among these sufferers the British Committee of the French Red Cross carries on its noble and courageous work. Unpaid, unseen, living under conditions of great hardship (their flimsy quarters at Vitry were fireless last winter), these devoted folk, mainly women and girls, distribute to the necessitous according to their wants. The organisation is excellent, the methods of relief effective and economical: each case is visited, the needed "marmite," "casserole," bedding, food is supplied—but never money. The duty is difficult and trying, not free from actual danger. A girl takes out her lorry of supplies alone, for hands are few; she must do her own running repairs in case of breakdown, she is without means of defence, and the country is far from safe. But a fortnight back a British officer was murdered outside St. Quentin; "I dare not allow my girls out in the town after sunset," said a Lady Commandant. There is hospital work as well, casualties from unexploded shells, for instance, are frequent; detonators have a fatal attraction for children, and there are always several cases of little hands or fingers blown off by those dreadful playthings.

Certainly a visit to the devastated zone is a very saddening experience; yet amid the gloom the French Red Cross glows bright and reassuring, a symbol of present help in time of trouble, of hope for future salvation.—J. W. S.

In the same issue of *The Builder*, Sir Banister Fletcher [F.], who accompanied the President, gives the following account of the tour:

Leaving London on Wednesday, 3rd September, a halt was called at Boulogne for the first night, and this town seems to have suffered comparatively little damage owing to the excellent local aerial defences. An early start was made from Boulogne on the 4th, when the party commenced its pilgrimage in staff cars of the French Red Cross. Passing up to the heights above Boulogne, the high road to St. Omer, which was, like most others, in bad condition, owing to war traffic and war-time neglect, was reached. St. Omer itself, planted on rock amidst islands and canals, was for a time the headquarters of the British Expeditionary Force, and received the attentions of the Boche suitable

to its importance as a military centre. The old tower of St. Bertha still rears its mediæval head above its neighbours, and much of the war damage to this once walled and fortified city seems already to have been made good.

Hazebrouck, on the River Bourre, an important railway junction, was next reached. After a run through Bailleul in making our way towards Ypres, we received the first great shock; for here, on either side of the highway, a scene of desolation was opened out before us, particularly noticeable in the tall poplar trees, which when not shot down had been rendered lifeless owing to the bark having been stripped off by shell fire, so that they appeared as dead, not as living trees. These flayed trees, which had been the guardians of the highway of social intercourse and commerce, were to us the first grim testimony of the death-dealing destruction of war.

Arrived at Ypres, the shock was intensified when we beheld that which to all intents and purposes has been left a city of the dead—dead activities, dead buildings, dead streets and departed citizens. The contrast between a visit in 1913 and to-day is, indeed, heartrending. Then, its streets resounded with the hum of busy life, its chimneys pealed out from cathedral and churches, and it is not too much to say that Ypres as Ypres no longer exists. The Cloth Hall is stripped of its historic glory, the Town Hall is stricken to the ground, the Cathedral is rent in twain, and even the Market Place is scourged out of recognition. Photographs will have rendered this clear, but nothing short of a visit to the spot will make it possible for anyone to visualise the tragedy of a city ruined and laid low by continued bombardment. The open market-place itself is hardly recognisable by reason of the shell-holes which have rent its surface, and the mounds of ruins which are piled around. The Cloth Hall is a mere shell which only retains some portions of its outer and lower walls and a fragment of its tower. The rows of historic statues have been shot away, as also the roof, with its fine mediæval vaulting, beautiful traceried windows and frescoes of the history of the town; while even the small parts which remain are so lumbered up with mounds of fallen masonry that they are difficult to outline, even by an architect who is familiar with the original plan. The well-known Renaissance Town Hall alongside has been wiped out, while of the adjacent Cathedral only parts of the lower structure still stand. The street itself has been pierced by shells, which have exposed the underground water-course. With much difficulty we made our way through piles of fallen masonry to what is left of the Cathedral, and this is practically unrecognisable in its fallen state. So thorough has been the destruction that we failed to find any traces of the inn on the Grand Place where we had enjoyed a French *déjeuner* before the war. The city in its present state reminds one more of Pompeii, in Italy, or of Timgad, in North Africa; but in reality the damage is still more thorough, as even the streets have been destroyed, and one cannot, as in these ancient ruins, trace the marks of the chariot wheels on their stones. It is said that the Belgian Government does not intend to attempt to rebuild the city, but will build a New Ypres outside the old, and leave the piles of ruins, which were once a town, as an enduring monument to German shame and German perfidy.

With a heavy heart we passed on our way to Menin, and across the frontier to Tourcoing, always amid ragged scenes of desolation similar to that which was concentrated in Ypres. Reaching Croix, a commune outside Lille, we saw the calculated destruction of the great wool-combing fac-

tory; all the machinery had been wantonly wrecked by the Germans during their stay.

Next day we made an early start for Lille, where the damage done early in the war was already in course of repair so as to restart the industrial life of this busy town. We visited the dump on the outskirts of the city, the blowing up of which by treachery had shattered the neighbouring buildings. Here, numbers of German prisoners in their drab green uniforms are employed on a variety of works. It was with a strange mingling of feelings of surprise and satisfaction that one saw these gangs of enemy workers set to restore that which they had destroyed.

We then proceeded to La Bassée and Lens, leaving Loos on our right, to Vimy and the Vimy Ridge, and so on to Arras, another of the ruined cities of the plain where the old Hôtel de Ville, dating from the sixteenth century, retains only a stump of the graceful and soaring Renaissance belfry which formerly dominated the market-place from a height of 250 feet. The arcaded buildings which stood around the spacious Grande Place and the Petite Place have been gashed, rent and scarred, so that only mutilated phantoms stand around heaps of stones collected together from various buildings; and as we gaze on this and similar scenes we seem to see a stone quarry from which the great spirit of France will once again repair the waste of desolation and raise again the cities that have been thrown down.

Proceeding north-eastwards, we made for Vitry. The Society is here carrying on its work in a most practical way by supplying returning refugees with the necessities of life, clothing and household utensils. We then proceeded to Douai, famous for the "Douai Bible," and situated on the canalised channel of the Scarpe. Passing through ruined streets, it was an agreeable surprise to find that the noble Hôtel de Ville, dating from the fifteenth century, with its five-storied belfry, apparently remains intact. After a short stay here, a start was made on the road to Cambrai. Throughout the day we noticed that the country had completely lost its original character, because the Boches had sawn off, about 2 feet from the ground, the great poplar trees which formerly lined the main highways, and these tree stumps stand as a memorial of the wanton nature of German occupation. We now took up our last stage on the road to St. Quentin. This was one of the worst roads we had to traverse, for incessant war traffic had made many and deep impressions on what was once the fine surface of a *route nationale*. Passing through Le Catelet, we paused to examine the Bellicourt Canal, made by Napoleon I. to pass underground through the mountains and so to connect the water highways of that district. This was used by the Germans as a safe retreat from shell fire.

The following morning we made a hurried survey of the damage, which has been considerable, although the Hôtel de Ville, of the fifteenth century, with its façade of pointed arches, has escaped. The fine Cathedral of St. Quentin, dating from the twelfth and fifteenth centuries, has received so much attention from the Boches that the roof and most of the vaulting have gone, but the famous circular transept windows still remain. It was interesting to note how the destroyed flying buttresses had already been replaced by timber strutting to hold the walls in position. St. Quentin was one of the few places where we noted any attempt at reconstruction, either in churches or secular buildings; the French may be waiting for the distribution of the indemnities which they look to receive before proceeding to carry out this work.

About midday we started for Peronne, a small town on

the Somme, with the destruction of which many photographs and war pictures have made us familiar. From here to Albert, on the Ancre, the country presents an even more desolate appearance, and shell-holes pit the surface of the land like pock-marks, so that one would despair of its ever again bearing fruitful crops, did not one know the amazing energy and power of recuperation of our gallant Ally. Albert rivals Ypres in its total destruction, and many will recall the statue of the Virgin leaning suspended, as by a miracle, from the tower of the Cathedral, which has now been jealously removed to safer quarters.

We next made for Amiens, for the night. We had now left behind us the nightmare of ruins; and, though Amiens itself was hit by gunfire, it does not appear to have suffered greatly compared with the cities in the war zone. The west front of the Cathedral was defended by sandbags, which have now been removed, so that the beautiful sculptures, so lovingly described by Ruskin, remain intact. . .

Next morning we slipped early out of the silent city on our way back to Boulogne, and now, almost for the only time, enjoyed the peace of a comparatively good road, as we journeyed with the valley of the Somme in view to Abbeville. Beyond certain damage to farmhouses along the route, we were out of the region of devastation and destruction.

To Lieut. Parker-Cater and the officials of the French Red Cross we record our grateful thanks for all the careful provision so successfully made for this interesting but saddening expedition. The circle of our tour of 400 miles was completed at Boulogne whence we had started, and we took boat to England with a sense of gratitude deeper than ever before that the silver sea encircled our little island and thus ensured our country against the fiendish destruction of a foe who had no regard for the dictates of humanity, for laws of war, or for treasures of art, who spread destruction for destruction's sake, sacking, breaking and ravishing as he went.

The fair land of France lies torn, mangled, and bleeding from every vein, from city, town, commune and countryside in this appalling war zone, and it remains for those who are still safe and untouched to come to the help of the brave and practical Red Cross of France to heal the wounds that fair country has suffered in the cause of all humanity.

#### Wooden Frame Houses.

The Ministry of Health, in issuing a memorandum authorising relaxations in the Building By-laws, makes the following statement:—

A special investigation into the possibilities of using wooden frame houses as part of the Government housing scheme was begun, a few months ago, by a Committee appointed by the Minister of Health to inquire into new methods of construction. This Committee, which includes outside experts, have considered and approved a large number of new materials and new methods of construction which would not conform with existing building by-laws. Steps have been taken to render the adoption of such methods practicable by relaxing the requirements of local by-laws, and general regulations authorised by the new Housing Act are being issued for this purpose. . . .

The inquiry into the use of wooden frame houses is not complete, but the information at present available goes to show that when regard is paid to present, not pre-war, prices, to cost and difficulty of freightage, to the cost of adaptations and of fittings to comply with English standards, a wooden frame house from British Columbia, with accommodation, fittings, and conveniences for domestic use approximating to those now required in Government assisted schemes, is not likely to be completed

for much less than £700, and the cost may not improbably be even more.

It is essential, in comparing the relative merits of wooden houses and houses of other modes of construction, to be quite sure that the comparison is between buildings of the same accommodation and providing the same fittings and conveniences. It is misleading to compare—as is frequently done—the cost of a complete brick house ready for occupation with that of a wooden shell, which is good enough as an outer framework, but cannot become a home until many things have been added and much additional work done.

The brickwork of an ordinary cottage represents only about one-third of the total cost. If the accommodation to be provided in houses to be compared is the same, and the same standard of fittings and conveniences be provided, the cost of the remainder of the house—representing two-thirds of the cost—will be the same whether the house be of brick or wood. Any possible saving must result from the difference between the cost of the brick shell and the cost of the wood shell. So far as figures have been obtainable the amount saved by using a wooden shell is at most 6 per cent. of the total cost of a similar brick-built house.

The Canadian wooden house, commonly referred to, differs in many respects from the house which a tenant in this country expects to obtain. These wooden houses, for instance, have as a rule a basement containing a stove for central heating of the whole house. This method of heating differs entirely from that to which the English housekeeper is accustomed, and, if the English prejudice in favour of the open fire is to be respected, considerable modifications in internal design and construction are inevitable.

The points in favour of the adoption of the wooden frame houses are some reduction in cost, which is not, however, likely to be very large, and in ordinary circumstances greater expedition in erection.

On the other hand, the wooden house must in the main be regarded as suitable for use in rural or other sparsely-populated districts. The greater risk of fire cannot be ignored, and increased insurance rates will, no doubt, be required for this type of building; the extensive building of wooden houses in thickly-populated towns cannot be contemplated. The risks of vermin have also to be borne in mind; the wood is not rendered vermin-proof by covering it with cement stucco or asbestos sheets.

Further, although there exist examples of old wooden houses, built of the best quality of timber with scantlings much heavier than those in common use to-day, which have lasted many years, it must be expected that the modern wooden frame house will ordinarily have an appreciably shorter life than the equivalent brick house. And as regards the prospect of greater speed in building it must be remembered at the present time that the trades of carpenter and joiner are among those in which the greatest scarcity obtains in the building trade.

As already stated, further information on the question of wooden houses is being obtained and sample houses are to be brought from Canada and erected in this country. Regulations are being issued enabling local authorities to allow this and other special methods of construction. The Ministry of Health are anxious to encourage any form of construction which promises dispatch or economy, and any reasonable experiments with these objects will be welcome.

#### L.C.C. Superintending Architect.

At the meeting of the London County Council on the 7th October, a resolution was passed recording on the retirement of Mr. W. E. Riley from the office of Superintending Architect the Council's appreciation of his ability and its recognition of the high sense of duty displayed by him during his twenty years of service. A supporter of the motion said that Mr. Riley's tenement buildings were as near perfection as was possible within the limits allowed



him. Mr. Riley, in acknowledging the resolution, mentioned that over a thousand buildings erected in London for war purposes had passed under his supervision.

Mr. George Topham Forrest [F.], F.G.S., who succeeds Mr. Riley, is a native of Aberdeen and was educated at the Grammar School and University of that city. After serving his articles with Messrs. Brown & Watt, of Aberdeen, he came to London and entered the office of Mr. J. Macvicar Anderson, with whom he remained four years. He then filled for a year the position of principal architectural assistant with the Leeds City Engineer, and was subsequently for seven years in the Architects' Department of the West Riding County Council. Appointed County Education Architect for Northumberland in 1905, he relinquished that post to assume in January, 1914, the position of County Architect for Essex, for which he was selected out of 156 applicants. Mr. Forrest has specialised on institutional buildings such as asylums and schools. He assisted in the design and erection of the pauper lunatic asylum at Storther Hall, near Huddersfield, and of the Scalebor Park private asylum near Leeds. When the Education Act of 1902 was passed, Mr. Forrest was placed in charge of work relating to the architectural inspection of 900 elementary schools, and as County Education Architect for Northumberland he carried out nearly all the school work for that county, building thirty-three new schools and superintending many alterations. He also designed the High School for Girls at Morpeth, a secondary school at Whitley Bay, and a technical institute at Wallsend-on-Tyne. As Essex County Architect he was responsible for the preparation of Essex Council's great housing scheme which is to cost  $3\frac{1}{2}$  millions, and embraces not merely housing, but the reclamation of derelict land, the provision of light railway, wharves, drainage and maintenance of sea walls, and agricultural education. Early in the present year Mr. Forrest was appointed a member of the Advisory Committee for the supply and control of materials. For his present appointment Mr. Forrest was selected out of 44 candidates.

#### Architectural Appointments.

Mr. Ernest Newton, R.A. [F.], has been appointed Honorary Architect to the Ministry of Health, with the special duty of assisting the Ministry to safeguard buildings of architectural or historical interest which it may be proposed to repair as part of a rural housing scheme.

#### Professional Notices.

Mr. Sydney Tatchell [F.], of 25, Queen Anne's Gate, has entered into partnership with Mr. E. H. Bourchier [F.] (Messrs. Bourchier and Galsworthy), of the same address. Their practice as architects will be carried on under the style of Messrs. Bourchier, Tatchell and Galsworthy, at 25, Queen Anne's Gate, S.W.1.

Wanted, Architectural Assistant for Hong Kong, A.R.I.B.A. preferred. Age about 30. Single. Salary 300 dollars (Mex.) a month. Agreement for three years.—Write G. G. W., c/o Secretary R.I.B.A., 9, Conduit Street, W.

Associate, recently demobilised, wishes share of offices with architect, preferably W.C. district.—Address, M.G.R., c/o Secretary R.I.B.A., 9, Conduit Street, W.

#### Meritorious Service Medal: A Correction.

It was Mr. T. A. E. Lofthouse who was awarded the Meritorious Service Medal, not Mr. T. A. Lofthouse, as stated in the last issue of the JOURNAL.

## NOTICES.

### Election of Members, 1st December 1919.

Applications for election have been received from the undermentioned gentlemen. Notice of any objection or other communication respecting them must be sent for submission to the Council prior to Monday, 3rd November.

#### AS FELLOWS (22).

- AYRTON: ORMROD MAXWELL [A., 1903], 3 Verulam Buildings, Gray's Inn, W.C.; 9 Church Row, Hampstead, N.W.
- BLUM: QUENTIN MANGNALL [A., 1910], Victoria Chambers, Fishergate, Preston; and Whitecote, Devonshire Road, St. Anne's-on-the-Sea, Lancs.
- BOUTCHER: CHARLES GEOFFREY [A., 1910], Alor Star, Kedah, Malay Peninsula.
- BROWNIGG: ANNESLEY HAROLD [A., 1908], 69 Chancery Lane, E.C.; and The White House, Milford, Surrey.
- CHETWOOD: HENRY JOHN [A., 1910], 5 Bedford Row, W.C.1; and Brook House, Bishops Stortford.
- GAMBLE: HENRY GILBERT [A., 1891], Bank Street Chambers, Lincoln; and "Budleigh," The Grove, Lincoln.
- GRANT: THOS. FRANCIS WILTSHIRE, M.C. [A., 1910], 11 Buckingham St., W.C.2; & 148 High St., Kensington.
- LE MAITRE: WILLIAM COURTENAY [A., 1905], 63 Finsbury Pavement, E.C.; and 58 Palace Court, W.
- MAUFE: EDWARD BRANTWOOD, M.A.Oxon. [A. 1910], 3 Raymond Buildings, W.C.1; and 139 Church Street, Chelsea, S.W.3.
- MOORE: LESLIE THOMAS, M.C. [A., 1905], 3 Raymond Buildings, Gray's Inn, W.C.1; and 3 Squires Mount, Hampstead.
- OLIVER: BASIL [A., 1910], 7 Southampton Street, Bloomsbury, W.C.1; and 148, Kensington High Street, W.8.
- SCOTT-MONCRIEFF: WILLIAM WALTER, M.C. [A., 1912], 11 Gray's Inn Place, and 13 Hart Street, W.C.1.
- SMITHERS: ALBO [A., 1908], Skinners' Hall, 9 Dowgate Hill, E.C.; and The Manse, Bishops Stortford, Herts.
- STONE: HENRY SPENCER WALCOTT [A., 1904], 54 North Street, and Kingswood, Staplegrave, Taunton.
- TENCH: EDWIN JAMES [A., 1901], 15 Court Chambers, The Walk, Norwich; and Riverside Road, Norwich.
- WILCOCKS: CONRAD BIRDWOOD [A., 1912], 11 Friar Street, and Willstead, Caversham Heights, Reading.
- WILLS: FRANK REGINALD GOULD [A., 1892], 34 Finsbury Pavement, E.C.2; and 83 Badminton Road, S.W.12.
- And the following Licentiate who have passed the qualifying examination:—
- DRIVER: ARTHUR JAMES, Surveyor's Office, Grocers' Hall, Princes St., E.C.2; and 8 Trafalgar Square, S.W.3.
- ESCH: VINCENT JEROME, Architect-in-Charge, Victoria Memorial, Calcutta.
- KIRBY: EDMUND BERTRAM, O.B.E., 5 Cook Street, Liverpool; and Overdale, Oxtan, Birkenhead.
- SANDY: HENRY THOS., 22 Greengate, Stafford; 71 Temple Row, Birmingham; 9 Albert Square, Manchester.
- WILKINSON: STEPHEN, Standard Buildings, Dalhousie Square, Calcutta; and Lingdale, Bournemouth.

#### AS ASSOCIATES (142).

[Except where otherwise indicated, the candidates have served with H.M. Forces, and, being Students and duly qualified, have availed themselves of the concessions granted to Students so serving [see Special Regulations, JOURNAL for March 1918].

- ADDY: FREDERICK ARNOLD, P.A.S.I. [S., 1913], 48 Pennywern Road, Earl's Court, S.W.
- ADDISON: JOSEPH [Special War Examination], 9 Church Terrace, Turf, Aberdeenshire, N.B.
- ASLIN: CHARLES HERBERT [S., 1913], 73 Lennox Road, Hillsboro', Sheffield.
- ARMSTRONG: EDWARD WILLIAM [Special War Examination], c/o Architectural Association, 35 Bedford Square.
- ASHMAN: HERBERT WILLIAM [S., 1913], Bryher, 52 Kingston Road, Teddington.

- BADCOCK: PAUL [*Special War Examination*], 8 Woodside, N.W.4.
- BARTLEY: ALVA MARTIN [*Special War Examination*], Ewen Street, Takapuna, Auckland, N. Zealand.
- BATTISCOMBE: HUMPHREY [S., 1918], Beverley, Orpington, Kent.
- BEATTIE: OSCAR ALEXANDER [*Special War Examination*], Wagga Wagga, New South Wales, Australia.
- BELL: DOUGLAS [S., 1907], West House, Drury Lane, Wakefield.
- BERRY: ARTHUR GILBERT [*Special War Examination*], 7 London Street, Norwich.
- BETHAM: ARTHUR ARCHER [*Special War Examination*], 39 Bedford Square, W.C.1.
- BINNIE: WILLIAM BRYCE [S., 1913], Springwells Avenue, Airdrie, Scotland.
- BLACKBURN: NORMAN ARTHUR [S., 1914], Waynville, Westboro', Dewsbury.
- BLACKFORD: JOSEPH [S., 1913], Hartlebury, Kidderminster, Worcs.
- BLOOMFIELD: WILLIAM SWANSON READ [*Special War Examination*], Gisborne, N. Zealand.
- BROAD: GORDON LESLIE [*Special War Examination*], 18 Meadow Bank, Choriton-cum-Hardy, Manchester.
- BRODIE: JAMES [S., 1909], 3 Palace View, Fulford, York.
- BROOKS: CHRISTOPHER JOHN [S., 1919], 4 Newton Mansions, Queen's Club Gardens, W.14.
- BROOMHALL: THOMAS HARGREAVE [S., 1911], 9 Park View, Walton, nr. Wakefield.
- CABLE: CHARLES JOHN [*Special War Examination*], 23 Great Elms Road, Bromley, Kent.
- CABLE: ROBERT WILLIAM [S., 1909], School of Art, Bombay, India.
- CALDWELL: OLIVER REGINALD [S., 1912], Penzance, Cornwall.
- CARR: GERALD MOSMAN, M.B.E. [*Special War Exam.*], Hiawatha, New South Head Road, Rose Bay, Sydney.
- CASHMORE: FRANCIS MILTON [*Special War Examination*], 18 London Street, W.2.
- CHANTER: HORACE RAYMOND [S., 1908], 7 Whitehall Gardens, Acton Hill, W.3.
- CHIPMAN: NOEL INGERSOLL [*Special War Examination*], 45 Lincoln Avenue, Montreal, Canada.
- CHRISTIAN: FREDERICK FISHER [*Special War Examination*], 98 Newry Street, North Fitzroy, Melbourne.
- CLAYTON: CHARLES LAWRENCE [S., 1913], 10 Prince Albert Street, Brighton, Sussex.
- CORNEY: JOHN WILLIAM [S., 1905], Mafeking, St. Peter's Avenue, Kettering.
- CUNDALL: PHILIP HENRY [*Special War Examination*], 13 Jesmond Avenue, Hilton Park, Prestwich, Lancs.
- DAILEY: ARTHUR BENJAMIN [S., 1910], 97 Elspeth Road, S.W.11.
- DAVIES: DAVID OWEN HARRIS [*Final Examination*, 1919], "Maengwyn," Knoll Avenue, Swansea.
- DAVIES: WILLIAM GEORGE [*Special War Examination*], 94 Jesmond Avenue, Bradford, Yorks.
- DEAR: FRANK TWYDALE [*Special War Examination*], 9 Haycroft Road, Brixton Hill, S.W.
- DODD: RONALD FIELDING [S., 1919], "The Cottage," Castletown, Isle of Man.
- DRAFFIN: MALCOLM KEITH [*Special War Examination*], King Edward Avenue, Epsom, Auckland, N. Zealand.
- EDGEcombe: JOHN HAROLD [*Special War Examination*], Hamilton, Waikato, Auckland, N. Zealand.
- EDWARDS: KENNETH DREW [S., 1912], Thornton, Thurlow Park, Torquay.
- EMES: JAMES ALBERT [S., 1915], 14 Nightingale Square, Wandsworth Common, S.W.
- FILDES: GEOFFREY PHILIP [S., 1919], 19 Queen Anne's Gate, Westminster, S.W.
- FINCH: CLIFFORD HORACE [*Special War Examination*], Lord Street, Roseville, Sydney, N.S.W.
- FISHER: HENRY NETTLETON, M.C. [S., 1914], 84 Hungerford Road, Camden Road, N.7.
- FORD: THOMAS FRANCIS [*Final Examination*, 1919], 36 Hanover Park, Peckham, S.E.15.
- FRATER: ROBERT [*Final Examination*, 1919], 7 Bank Street, Greenock, N.B.
- GENTRY: EDGAR CHARLES [*Final Examination*, 1919], c/o Messrs. Grindlay & Co., 54 Parliament Street, S.W.
- GOODSALL: ROBERT HAROLD [S., 1912], 10 Oxford Street, Whitstable, Kent.
- GOODWIN: HARRY THOMAS [S., 1912], 39 Graunville Park, Blackheath, S.E.
- GORDON: JOSEPH DAVISON [S., 1914], Conway Square, Newtownards, Co. Down.
- GORDON: PERCY JAMES [S., 1914], c/o Messrs. Morrow & De Putron, 7 Moore Street, Sydney, Australia.
- GRANT: JOHN PETER DUFFIE [S., 1919], Bute Estate Office, Castle Street, Cardiff.
- GREENISH: FRANK EGGAR [*Special War Examination*], Karori, Wellington, N. Zealand.
- GREENWELL: CARLYLE [S., 1907], Killara, Sydney, N.S.W., Australia.
- GRIERSON: HUGH CRESSWELL [*Special War Examination*], Queen Street, Auckland, N. Zealand.
- HAMILTON: ROBERT BELL [*Special War Examination*], c/o Architectural Association, 34 Bedford Square W.C.
- HAMILTON: THOMAS CRESSBY [S., 1913], 41 Balmoral Terrace, South Gosforth, Newcastle-on-Tyne.
- HANNAFORD: LEONARD GORDON [*Special War Examination*], 29 Matheson Road, West Kensington, London.
- HARDY: PHILIP [*Special War Examination*], 7745 View Point Crescent, Jasper Avenue, Edmonton, Canada.
- HARRIS: WILFRED HENRY, P.A.S.I. [S., 1914], 76a Bedford Road, Clapham, S.W.
- HENSEHALL: LOUIS SYDNEY, D.S.O. [S., 1910], Stockton Heath, Warrington.
- HERFORD: THEODORE WELLBY [S., 1919], 27 Heaton Road, Withington, nr. Manchester.
- HOLBROW: ALFRED ERNEST [*Special Final Examination*, 1919], 13 Cowper Road, Hanwell, W.7.
- HOLROYD: FRANK [S., 1913], 8 Warwick Place, Leeds.
- HOUSTON: JAMES [S., 1918], Glenlogan, Kilbirnie, Ayrshire.
- HOWELL: JOHN ALLNUTT [S., 1913], "The Laurels," Cumnor, nr. Oxford.
- HUBBARD: PHILIP WADDINGTON, M.A., 112 Fenchurch Street, E.C.3.
- HUDSON: THOMAS [S., 1912], 2 Cassiobury Park Avenue, Watford, Herts.
- INMAN: GORDON HENRY NISBET [S., 1912], 7 Bedford Row, High Holborn, W.C.1.
- IRWIN: LEIGHTON FRANCIS [*Special War Examination*], 39, Tavistock Square, W.C.
- JACKMAN: FREDERICK [*Final Examination*, 1919], Yateley Lodge Cottage, Yateley, Hants.
- JACKSON: BURROUGH DE CARLE [S., 1911], Chelston, Overbury Avenue, Beckenham, Kent.
- JEATER: WILLIAM DAVID [*Special War Examination*], "Weirons," Woodstock Street, Mayfield, Newcastle, N.S.W.
- JEFFREYS: HAROLD MORTON [*Special War Examination*], Rylston Lodge, London Road, Maldon, Essex.
- JEWELL: HARRY HERBERT [*Special War Examination*], 12 Great James Street, Bedford Row, W.C.
- JOHNSON: HENRY ANDREW [S., 1915], The Vicarage, Great Harwood, Blackburn.
- JONES: OWEN CAMPBELL [*Special War Examination*], Skinners' Hall, 9 Dowgate Hill, E.C.
- LAST: FREDERICK BERTRAM [S., 1911], Bolton House, Sutton, Surrey.
- LEE: ROBERT ARTHUR [*Special War Examination*], Bank Street, Meadowbank, N.S.W., Australia.
- LEGG: THEODORE ELLIS [S., 1911], Tintern, Mornington Road, Woodford Green, Essex.
- LISLE: BERTRAM EDWIN [*Special War Examination*], 7 Observatory Road, East Sheen, S.W.14.

- LOVE: ROBERT MACLAREN [S., 1911], Treviscoe, Launceston, Cornwall.
- McKENZIE: JOHN CHARLES [Special War Examination], 50, Kingscourt Road, Streatham, S.W.16.
- MACLAURIN: ROBERT WILLIAM [Special Examination, 1915], P.O. Box 234, Gisborne, N. Zealand.
- McMICHAEL: ALASTAIR MARSHALL, M.A. [Final Exam., 1919], Commercial Bank House, Callander, Perthshire.
- McNICOL: JOHN, P.A.S.I. [S., 1907], 8 Park Terrace, Stockton-on-Tees.
- MADDOCK: RICHARD HENRY [S., 1911], Tremadoc, Egmont Road, Sutton, Surrey.
- MAISEY: SAMUEL REGINALD [Special War Examination], 88 Pitt Street, Sydney, Australia.
- MASON: HAROLD CLAYFORTH [S., 1917], Skelgarth, Ambleside, Westmorland.
- MASSEY: HORACE LOVELL [Special War Examination], 9 Gower Street, W.C.1.
- MASTERS: WILLIAM EWART [Special War Examination], 3 Leaside Crescent, Golders Green, N.W.
- MAXWELL: ARTHUR EDWIN [S., 1913], c/o Mrs. Hall, 14 Highfield Avenue, N.W.4.
- MELDRUM: PERCY HAYMAN [Special Examination, 1915], 34 Cartwright Gardens, W.C.1.
- MERRISON: CHARLES REDFORD [S., 1906], 41 Fountayne Road, Stoke Newington, N.16.
- MOORE: JOHN DRUMMOND MACPHERSON [S., 1913], Baywater, Mackenzie Street, Lindfield, Sydney, Australia.
- NATUSCH: STANLEY [Special War Examination], 27 Tanza Road, N.W.3.
- NIGHTINGALE: FREDERICK BAYLISS [S. 1909], 47 West Side, Wandsworth Common, S.W.
- NISBET: ALEC [Special War Examination], 37 Avenue Terrace, York.
- NOWLAND: RAYMOND CLARE [Special War Examination], Ashfield, Sydney, N.S.W.
- ODOM: JOHN HENRY [S., 1911], 5, Kenbourne Grove, Sharrow, Sheffield.
- OPIE: ARNOLD MOSTYN [Special War Examination], Azalea Street, Prospect, Adelaide, South Australia.
- PAGE: THOMAS ALEXANDER [S., 1911], 3 South View Terrace, South Shields.
- POOL: STANLEY [S., 1907], Oakleigh, Hartley, Wintney, Hants.
- REID: GORDON STUART [Special War Examination], c/o The Architectural Association, 35 Bedford Square, W.C.1.
- REIDY: EDWARD DANIEL [Special War Examination], "Te Kainga," Kelmarna Avenue, Herne Bay, Auckland, N.Z.
- REW: NOEL ACKROYD [S., 1906], 219 High Street, Great Berkhamsted.
- RHIND: JAMES ELLABY [Special War Examination], 6 Victoria Terrace, Inverness.
- RICHARDSON: HERBERT CLIFFORD [S., 1913], St. Austell, Ashton-on-Mersey, Cheshire.
- RILEY: RICHARD HOLDEN, P.A.S.I. [S., 1911], 613 Bolton Road, Ewood, Blackburn.
- ROUGHLEY: EDWARD [S., 1908], 7 Gerard Road, Wallasey, Cheshire.
- RUWALD: CYRIL C. [Special War Examination], Palmer Street, Chatswood, Sydney, Australia.
- SALE: FREDERICK [Special War Examination], c/o The Architectural Association, 35 Bedford Square, W.C.
- SAVAGE: OLIVER FREDERICK [Special War Examination], 59 Talgarth Road, West Kensington, W.
- SHERWIN: CECIL THOMAS [S., 1910], West House, Drury Lane, Wakefield.
- SHORT: ERNEST WILLIAM GEORGE [S., 1896], No. 3 Officers' Bungalow, Wynberg Camp, Cape Town, S. Africa.
- SKINNER: THEODORE ARTHUR [S., 1908], 6 Chesterfield Road, Bristol.
- SMART: JACK STOCKER [Special War Examination], "Rob Roy," Middle Street, South Kensington, Sydney, N.S.W.
- SMART: ROY ARCHIBALD [Special War Examination], 43 Hawthorn Grove, Hawthorn, Victoria, Australia.
- SOUZA: WALTER EDWARD DE [Final Examination, 1919], 20 Woodville Road, Golders Green, N.W.
- STEPHENSON: ARTHUR GEORGE [Special War Examination], 21 Kooyong Koot Road, Glenferrie, Melbourne.
- STEVENSON: ROY KENNETH [Special War Examination], Mandeville Hall, Clendon Rd., Toorak, Victoria, Aust.
- STODDART: ROBERT WILLIAM [Special War Examination], 19 Fairlawn Avenue, Chiswick, W.4.
- TANNER: EDGAR ALLAN DAVEY [Special War Examination], 18 Hestercombe Avenue, Munster Road, S.W.6.
- THOMAS: PERCY EDWARD, O.B.E. [Special War Examination], 6 & 7 St. John Square, Cardiff.
- THOMAS: STANLEY KNIGHT [Special War Examination], Castle View, Usk, Monmouthshire.
- THOMPSON: GEORGE RICHARD, M.C. [S., 1915], "Culwalla," Mann's Avenue, Neutral Bay, Sydney, N.S.W.
- TURNER: DONALD K. [Special War Examination], Abbotsford, Sydney, Australia.
- WALKER: FREDERICK ARTHUR [S., 1904], 15 Brockenhurst Gardens, Mill Hill, N.W.7.
- WATT: JOHN DESBOROUGH [S., 1912], 15 Lancaster Park, Richmond, Surrey.
- WARDILL: REGINALD WILLIAM [S., 1913], 72 Greenvale Road, Eltham, S.E.9.
- WEBB: KENNETH EDWARD [Special War Examination], Kent Road, Rose Bay, Sydney, N.S.W.
- WHITE: JAMES HODGE [Special War Examination], Albert Lodge, Albert Place, W.8.
- WICKS: HERBERT GRAHAM, M.C. [S., 1907], "Hill Crest," Wellington Road, Edgbaston.
- WILKES: FRANCIS HILTON, B.Arch. [Special War Examination], "Hyneham," Brantford, Ontario, Canada.
- WILLIAMSON: FREDERICK [S., 1911], "Lynton House," Rushford Avenue, Levenshulme, Manchester.
- WILLIAMSON: JOHN WALLACE [Special War Examination], 94 Devises Road, Salisbury.
- WILSON: ROBERT, JNR. [S., 1914], Almalea, Falkirk, Stirlingshire.
- WINDER: ARTHUR MAYALL [S., 1911], 254 Waterloo Street, Oldham, Lancs.
- WOOD: CECIL WALTER [S., 1903], 90 Hereford Street, Christchurch, N. Zealand.
- WOOD: JAMES [S., 1913], 3 Strathaven Terrace, Oban, Argyllshire.
- WOODHOUSE: FRANCIS PERCY MARK [Final Examination, 1919], Southmead, Wimbledon Park, S.W.
- WYATT: LESLIE HERBERT WILLIAM [Special War Examination], 69 Tierney Road, Streatham Hill, S.W.2.
- WYLDE: FREDERICK CHARLES [S., 1909], Homelands, Kingsway, Woking, Surrey.

Opening Meeting, Tuesday, 4th November, at 8.30 p.m.

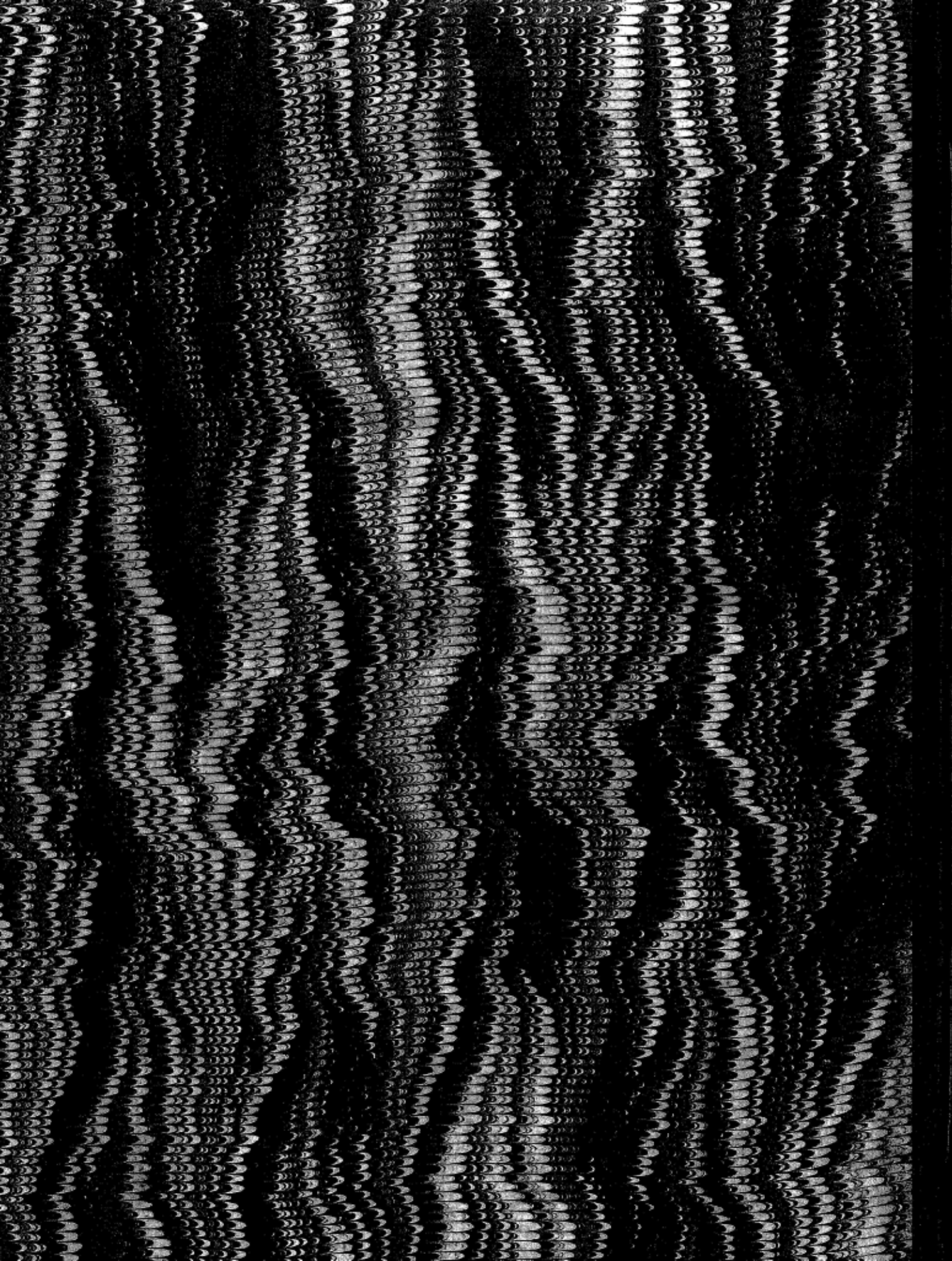
THE FIRST GENERAL MEETING (ORDINARY) of the Session 1919-20 will be held TUESDAY, 4th NOVEMBER 1919, at 8.30 p.m., for the following purposes:—To read the Minutes of the General Meeting (Ordinary) held 23rd June; to announce the names of candidates for membership.

The President, Mr. JOHN W. SIMPSON, to deliver  
THE OPENING ADDRESS.

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